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7 August 1985

**USSR REPORT  
MILITARY AFFAIRS**

**MILITARY HISTORY JOURNAL  
No 4, APRIL 1985**

Except where indicated otherwise in the table of contents the following is a complete translation of the Russian-language monthly journal VOYENNO-ISTORICHESKIY ZHURNAL.

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## ON THE FORTIETH ANNIVERSARY OF THE GREAT VICTORY

### On the Fortieth Anniversary of the Berlin Operation

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 4, Apr 85 (signed to press  
25 Mar 85) pp 8-17

[Article by Twice Hero of the Soviet Union, Army Gen I. I. Gusakovskiy]

[Text] In April 1945, military operations encompassed a significant portion of German territory. The Soviet Army continued to advance from the east and the troops of our Allies from the west. Here the basic grouping of forces from the First Belorussian Front, by the start of the operation, was 60-70 km from the capital of Nazi Germany.

The Nazi Command has worked out a strategic plan for the defense of Berlin and its essence was at any price to check the advance of the Soviet troops and during that time to conclude a separate truce with the United States and England. The duplicitous game of our Allies caused hope among the Nazis of splitting the anti-Hitler coalition. They had proposed the slogan: "Better to surrender Berlin to the Anglo-Saxons than to allow the Russians into it."<sup>1</sup> The special instructions of the National Socialist Party of 3 April stated: "The war is to be determined not in the West but in the East.... Our view should be turned only to the East regardless of what is happening in the West. The holding of the Eastern Front is the prerequisite for a turning point in the course of the war."<sup>2</sup>

The developing situation demanded from the Soviet Command that it quickly prepare and conduct an operation to defeat the Berlin grouping and capture the capital of Germany. Only the successful carrying out of this mission could thwart the plans of the Nazi leadership aimed at drawing out the war. Each extra day gave the enemy an opportunity to improve the defenses and reinforce the Berlin troop grouping from the other fronts and sections as well as from new formations. In addition, the American and English political and military leaders were endeavoring to reach Berlin before the Soviet Army although an agreement had been reached earlier on the line for the meeting up of the troops between the powers of the anti-Hitler coalition.

Berlin was not only the political bastion of Nazism but also one of the major centers of the nation's defense industry. On the Berlin sector the Nazi Command

had succeeded in concentrating a large troop grouping and combat equipment (totaling 1 million men, 10,000 guns and mortars, 1,500 tanks and assault guns and 3,300 combat aircraft).<sup>3</sup> A deeply echeloned defense had been prepared. It was based upon the Oder-Neisse Defensive Line and the Berlin Defensive Area. The Oder-Neisse Line included three zones with a total depth of 30-40 km. All the population points had been turned into strongpoints. Moreover, using the locks of the Oder River and the numerous canals, the enemy had prepared a number of areas for flooding. The best equipped defenses in engineer terms were located opposite the Kustrin bridgehead on the Seelow Hills.

The Berlin Defensive Area consisted of three circular perimeters (outer, inner and city) prepared for stubborn defense. The outer defensive perimeter ran 25-30 km from the city center while the inner one was along the outskirts of the Berlin suburbs. This was prepared to be the main area of the Berlin Defensive Zone. The city perimeter ran along the railroad ring. Barricades had been erected on all the streets leading to the city center, positions for artillery and mortars had been established on the intersections of streets and squares and tanks had been dug in. The subway was ready to be flooded. It must be considered also that the city was surrounded on all sides by rivers, canals, lakes and forests. This turned it into a natural gigantic fortress. For the convenience of command over the defenses, Berlin had been divided into nine sectors.

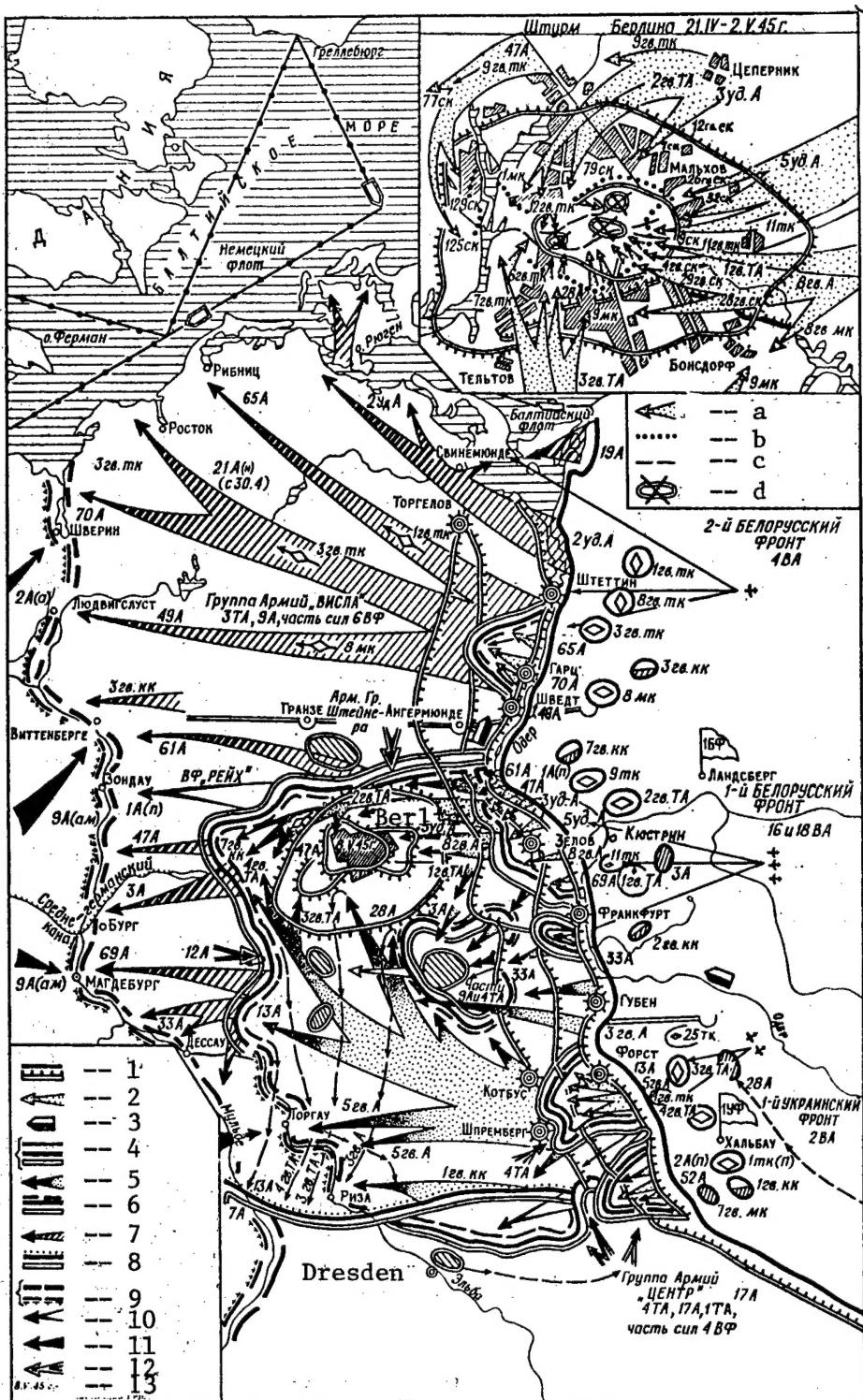
The overall strategic plan for the Berlin Operation began to be worked out by the Soviet Command even in the course of the winter offensive. The final version of the plan on 1 April 1945 was issued to the commanders of the First Belorussian and First Ukrainian Fronts. The aim of the operation was: to rapidly defeat the basic forces of the army groups Vistula and Center, to capture the capital of Germany and, reaching the Elbe River, to link up with the Allied troops. This was to deprive Nazi Germany of the possibility of further organized resistance and force it into unconditional surrender.

The overall concept of the Berlin Operation came down to breaking through the enemy defenses along the Oder and the Neisse by strong attacks by the troops of the three fronts and, in developing the offensive in depth, to surround the main enemy grouping on the Berlin sector with the simultaneous breaking up of it and subsequent piecemeal destruction. Then our troops were to advance to the Elbe (see the diagram).

For launching a crushing attack against the enemy on the Berlin sector, our three fronts by the start of the operation had 2.5 million men, 41,600 guns and mortars, 6,250 tanks and SAU [self-propelled artillery mount], 7,500 combat aircraft, including 800 long-range aircraft. Such an amount of men and weapons made it possible to establish an overall superiority over the enemy of 2.5-fold for personnel, 4-fold for artillery, 4.1 for tanks and SAU and 2.3-fold for aviation.<sup>4</sup>

In accord with the overall plan for the operation, Headquarters Supreme Command [Hq SHC] set the following missions for the fronts.

The First Belorussian Front (Commander, MSU G. K. Zhukov, military council member Lt Gen K. F. Telegin and chief of staff Col Gen M. S. Malinin) was ordered to prepare and conduct an operation with the aim of capturing the German capital



## Berlin Operation, 16 April-8 May 1945

[see Key on following page]

[Key to diagram on preceding page]

Key:

- a--Attacks by troops of First Belorussian and First Ukrainian Fronts
- b--Position of troops on 26 April
- c--Position of troops on 28 April
- d--Elimination of centers of resistance in Berlin
- 1--Front line by 18 April
- 2--Attacks by Soviet troops on 16-18 April
- 3--Operations of Dnieper Flotilla
- 4--Front line by 19 April
- 5--Attacks by Soviet troops 19-25 April
- 6--Front line by end of 25 April
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- 8--Front line on Dresden sector by 6 May
- 9--Line for linking up of Soviet and Allied troops 3-11 May
- 10--Combat operations of 1st and 2d Polish Armies
- 11--Attacks by Allied troops
- 12--Counterstrikes by Nazi troops
- 13--Signing of Act of Unconditional Surrender by Germany

and by no later than the 12th-15th day to reach the Elbe. The front was to make three attacks, with the main one involving the forces of five all-arms and two tank armies, directly against Berlin from the Kustrin bridgehead. For supporting the main strike of the grouping to the north and south two auxiliary attacks were to be launched by two armies each: the first from the area to the north of Kustrin on the Verbellin axis and the second from the bridgeheads on the Oder to the north and south of Frankfurt on the overall axis of Brandenburg outflanking Berlin from the south. The tank armies were to be committed after the breaking through of the tactical defensive zone for exploiting the success outflanking Berlin to the north and northeast. Considering the important role of the front in the forthcoming operations, Hq SHC reinforced it with eight artillery breakthrough divisions and a third all-arms army.

The First Ukrainian Front (Commander, MSU I. F. Konev, military council member, Lt Gen K. V. Kraynyukov, and chief of staff Army Gen I. Ye. Petrov) was given the task of preparing and conducting an operation in the aim of defeating the enemy grouping in the area of Cottbus and to the south of Berlin and by no later than the 10th-12th day of the operation to capture the lines of Bielitz, Wittenberg and hence along the Elbe River to Dresden. The front was to make two attacks: the main one on the general axis of Spremberg and an auxiliary one toward Dresden. For reinforcing the attack grouping the front received two all-arms armies from the Third Belorussian Front (the 28th and 31st Armies) and seven artillery breakthrough divisions. Both tank armies were to be committed in the sector of the main attack after breaking through the defenses along the Neisse River. The troops of the First Ukrainian Front were to assist the First Belorussian Front in capturing Berlin. At Headquarters the commander of the First Ukrainian Front was instructed by the Supreme Commander-in-Chief to make provision in the plan of the operation for the possibility of turning the tank armies to the north for attacking the capital of the Reich from the south.

The troops of the Second Belorussian Front (Commander, MSU K. K. Rokossovskiy, military council member, Lt Gen N. Ye. Subbotin and chief of staff, Col Gen

A. N. Bogolyubov) were given the mission of crossing the Oder, defeating the Stettin enemy grouping and no later than on the 12th-15th day of the operation to capture the line of Anklam, Waren, Wittenberg. Under favorable conditions, in employing a portion of the forces around the right wing of the First Belorussian Front, to roll up the enemy defenses along the left bank of the Oder. At the same time, they were to securely cover the Baltic Seacoast from the mouth of the Vistula River to Altdamm.

The main efforts of the Red Banner Baltic Fleet (Commander, Adm V. F. Tributs) were aimed at assisting the advance of the Second Belorussian Front along the seacoast and attacking enemy aviation and submarines on the sea lines of communications from Liyepaya to Rostock.

The Dneiper Naval Flotilla (Commander, Rear Adm V. V. Grigor'yev) in operational terms was to be under the First Belorussian Front and had the mission of helping it in breaking through the defenses, supporting the crossings and carrying out antimine defenses along the Oder.

The conduct of the Berlin Operation was preceded by careful and all-round preparations. This included enormous work involved in planning the forthcoming combat operations and the regrouping of the troops as well as intense combat training of the personnel. Such well-proven forms of instruction as assemblies, command-staff games as well as map and field exercises were conducted with the command and the staffs. The combat cohesiveness of the subunits and units was based upon troop training.

The basic mission of party political work consisted in ensuring high morale and offensive drive among the personnel. In mobilizing the men to combat feats a major role was played by the appeals of the VKP(b) [All-Union Communist Party (Bolshevik)] Central Committee "Let us catch the Nazi beast in its own lair!" and "Let us raise the Victory Banner over Berlin!" Serious work was also carried out over the appeals of the military councils of the fronts which urged the defeat of the enemy as befitting the sons of the great Soviet motherland. The preparations for and conduct of the operation coincided with the 75th anniversary of the birthday of V. I. Lenin. His ideas on the defense of the socialist fatherland were widely used in the work with the men and inspired them to unprecedented steadfastness, valor and mass heroism.

The Soviet people linked all the victories of the Soviet Army with the name of the party. The desire to become a communist in those days was enormous. The party organizations of the three fronts from 15 March through 15 April admitted over 17,000 men into their ranks. In the First Belorussian Front alone, on the last night before the offensive more than 2,000 men submitted requests to be admitted to the party.

During the last days and hours prior to the start of the offensive, party political work achieved particularly great intensity. Two hours before combat, the specific combat mission was explained to each man in the companies and batteries. The troop personnel was seized by a great combat surge. Everyone realized that the war would be over with the fall of the Nazi capital. The soldiers and officers impatiently were waiting for the start of the last crushing blow to catch the enemy in its own lair.

The offensive by the First Belorussian and First Ukrainian Fronts with air support from the 2d and 16th Air Armies started in the morning of 16 April. It began in a most difficult situation in the area of the First Belorussian Front. Here they had to break through three previously prepared and enemy-occupied defensive zones. The offensive assumed the nature of the sequential breakthrough of each enemy position and required the committing of the tank armies to the engagement on the first day of the operation. Only by the end of the fourth day of the operation had the troops of the front completed the breakthrough of the Oder defensive line, advancing to a depth of up to 30 km, and gained an opportunity to develop the drive toward Berlin and the outflanking of it to the north.

The offensive of the armies in the First Ukrainian Front was carried out under better conditions. The enemy defensive line along the Neisse River was significantly weaker than in front of the Kustrin bridgehead. For this reason the attack group of the front, under the cover of a smokescreen, crossed the Neisse and in cooperation with the tank armies committed to the engagement on the second day of the operation, in the 3 days of the offensive had advanced to a depth of up to 30 km. The successful offensive by the First Ukrainian Front created for the enemy the threat of a deep envelopment of its Berlin grouping from the south. The enemy's attempts to alter the course of the engagement, using reserves from the Army Group Center and the retreating formations of the 4th Tank Army were unsuccessful.

The slow rate of advance of the First Belorussian Front in breaking through the Oder defensive line jeopardized the carrying out of the mission to surround the enemy Berlin grouping by the designated date. Under these conditions Hq SHC ordered the commander of the First Ukrainian Front to turn the 3d and 4th Guard Tank Armies to attack Berlin from the south. The Second Belorussian Front after crossing the Oder was to deploy the main forces to the southwest and outflank the city from the north.

While the First Belorussian and First Ukrainian Fronts were breaking through the Oder-Neisse line, the troops of the Second Belorussian Front were completing preparations for the operation. In order to create the best conditions for the main forces for the offensive, the front on 18-19 April with the forces of the forward detachments crossed the Ost Oder and the interfluve of the Ost Oder and the West Oder and this ensured the taking up of an advantageous jump-off position for the formations of the attack grouping. On the morning of 20 April, after artillery softening up, the main forces of the front's attack grouping (the 65th, 70th and 49th Armies) went over to the offensive. The successful operations of the troops in the Oder interfluve and subsequently the breaking of the enemy defenses along the left bank in the area from Stettin to Schwedt had a substantial impact on the course of the Berlin Operation as the Nazi Command was unable to shift the 3d Tank Army into the zone of advance of the First Belorussian Front.

Thus, by 20 April, favorable conditions had developed in the zones of advance of all three fronts for continuing the operation in the aim of surrounding and splitting the enemy Berlin grouping.

The Nazi Command undertook desperate efforts not to permit the encirclement of its troops. For this purpose the 12th Army which was defending on the Elbe, on

22 April, was ordered to deploy in a front facing east and advance on Potsdam, Berlin to link up with the 9th Army. Simultaneously the army group of F. Steiner which was fighting to the north of the capital was ordered to make a counter-strike against the enemy troop grouping which was outflanking Berlin to the north and northeast. The 9th Army was ordered to retreat to the west in order to link up with the 12th Army to the south of Berlin. However, these plans were not carried out.

After breaking through the Oder-Neisse defensive line, the troops of the First Belorussian and First Ukrainian Front significantly increased the rate of advance and began to outflank the Berlin grouping from the northwest and southwest.

On 28 April, the 8th Guards Army and the 1st Guards Tank Army of the First Belorussian Front linked up to the southeast of Berlin with the 3d Guards Tank Army and the 21st Army of the First Ukrainian Front. As a result, the main forces of the enemy 9th Army and a portion of the 4th Tank Army which comprised the enemy Frankfurt-Gruben grouping, were cut off from Berlin and encircled by the Soviet troops in the forests to the southeast of the city. On 25 April, troops from the 47th Army and the 2d Guards Tank Army of the First Belorussian Front linked up with the 4th Guards Tank Army of the First Ukrainian Front in the region of Ketzin. The enemy grouping in the Berlin sector had been split into two parts. Simultaneously the fronts, in developing the offensive to the west with a portion of the forces, linked up with the American 9th Army on the Elbe River. In line with the successful surrounding of the Berlin grouping there was no need to outflank Berlin to the north by the forces of the Second Belorussian Front.

As a result of the pincer attacks of the First Belorussian and First Ukrainian Fronts and the skillful employment of the reserves and air strikes, the Frankfurt-Gruben enemy grouping was split into parts and by the end of May 1 had been eliminated. The hopes of the Nazi Command of relieving it had been dashed. The counterstrikes by the 12th Army of Gen W. Wenk were successfully repelled by the troops of the 4th Guards Tank Army and the 13th Army. A portion of the troops from the 12th Army which had survived the rout retreated to the left bank of the Elbe over bridges put up by American troops and surrendered to them.

The destruction of the enemy Berlin grouping immediately in the city was continued until 2 May by splitting the defenses and eliminating them piecemeal.

The troops of the Second Belorussian Front crossed the West Oder, they broke through the enemy defenses on its western bank and, in pursuing the remnants of the shattered 3d Tank Army, on 3-4 May, reached the Baltic Sea and the line of the Elbe, where they established contact with the English 2d Army.

The resistance of the Nazi troops was finally crushed. On 8 May the representatives of the German Supreme Command signed the Act of Unconditional Surrender in Karlshorst. Nazi Germany had been defeated.

The Berlin Operation ended with a brilliant victory. In the course of it the Soviet troops defeated 70 infantry divisions, 12 tank divisions and 11 motorized divisions and a larger portion of the Wehrmacht's aviation. Around 480,000 soldiers and officers were captured, up to 11,000 guns and mortars and over 1,500 tanks and assault guns were taken and also 4,500 aircraft.<sup>5</sup>

The Berlin Operation was the concluding strategic operation of the war in Europe. It embodied the enormous experience gained by the Soviet Armed Forces in the protracted and heavy fight against the Nazi Army. This operation made a significant contribution to the theory and practice of Soviet military art.

The operation is instructive in the fact that it was prepared for in a limited time (13-15 days). The necessity of reducing the time for preparing the combat operations was determined by the conditions of the military-political situation and primarily by the desire to thwart the attempts of the Nazi government to sow discord between the countries of the anti-Hitler coalition.

The limited time for preparing the operation demanded from the commanders and their staffs of all levels that they seek out more effective forms and methods of work. One of these methods was the parallel method of planning operations not only in the fronts and armies but also the combat operations in the corps and divisions. This made it possible to give the troops more time for their immediate preparation for combat. Also employed were such practical methods of rapidly preparing for an operation as working out the planning documents by the graphic method (on maps), the issuing of partial operational directives and the extensive use of motor transport for the regrouping of the rifle formations.

Also characteristic of the operation was the simultaneous offensive of three fronts in a 300-km area and the breaking through of the defenses in a number of sectors. This deprived the enemy of the possibility of completing the regrouping and forced it to commit its operational reserves to combat by units.

The defenses were broken through in narrow sectors. This made it possible to decisively mass the men and weapons on the selected sectors. Thus, on the First Belorussian Front in a breakthrough sector of 44 km (25 percent of the total length of the front's area) were concentrated 55 percent of the rifle divisions, 61 percent of the guns and mortars, 79 percent of the tanks and SAU; on the First Ukrainian Front in a sector of 51 km (13 percent of the front's area) there were 48 percent of the rifle divisions, 75 percent of the guns and mortars and 73 percent of the tanks and SAU.<sup>6</sup> Such a massing of the men and weapons provided the possibility of creating a deep troop configuration. The presence of strong echelons for exploiting the success as well as strong second echelons and reserves ensured the increase of forces in the course of the operation and its rapid development. A majority of the all-arms armies had a single-echelon configuration while the battle formations of the corps and divisions were usually formed up in two and sometimes three echelons. This also ensured the maximum force for the initial attack.

The decisive massing of men and weapons on the sector of the main thrusts of the fronts and achieving of superiority over the enemy here as well as the deep operational configuration of the troops not only ensured the breaking through of the Oder-Neisse defensive line but also provided an opportunity to subsequently increase the effort from in depth in the aim of rapidly encircling and destroying the enemy grouping.

The art of organizing cooperation underwent further improvement during the designated operation. This was characterized by high centralization in coordinating the actions of the field forces and formations of all the Armed Services

and branches of troops. Hq SHC, in directing its basic efforts at the rapid taking of Berlin, envisaged the making of deep attacks by the troops of the First Belorussian and First Ukrainian Fronts. This deprived the enemy of the possibility of shifting its forces to the Berlin sector. The precise organization of the attacks from the front combined with the outflanking maneuver of the mobile formations and field forces made it possible for these fronts to link up on 24 April to the southeast of the Nazi capital, having surrounded the Frankfurt-Gruben enemy grouping, and 24 hours later to close the ring to the west of Berlin, outflanking it to the north and south. In the operation rich experience was gained in continuous cooperation of the aviation with the troops on the sectors of the main thrusts as well as the coordinated actions of the ships and floating batteries of the Dnieper Naval Flotilla with the field artillery and rifle units.

The experience of the Berlin Operation reaffirmed that the encirclement and destruction of enemy groupings should comprise a single process. Here the successful carrying out of the task of rapidly eliminating the surrounded groupings was achieved by a non-stop offensive of the fronts during the day and at night, by squeezing and splitting up the surrounded groupings into isolated units, by maintaining superiority of men and weapons on the most important sectors of the inner and outer perimeters of encirclement as well as by thwarting the enemy's attempts to relieve the surrounded troops.

The destruction of the Frankfurt-Gruben grouping, for example, was carried out basically not in the area of encirclement but rather in thwarting its attempts to break through to the west. The basic methods of combating the groupings which were endeavoring to break through were the rapid "envelopment" of their reserves and attacking in the flank in the aim of splitting and destroying them piecemeal.

In destroying the Berlin grouping which did not attempt to break out of encirclement, the Soviet troops, in focusing their efforts on individual sectors, split it into three parts: the eastern, central and western regions of the city. This helped to rapidly destroy them.

The experience of capturing a major city gained a new content in the battles for Berlin. The plan of the offensive was worked out in detail ahead of time. Each army involved in the assault on the city was specifically assigned a zone. The formations and units were specifically assigned streets, squares and objectives to be taken. The basis for their battle formations were the assault detachments and groupings which included rifle subunits reinforced by tanks, SAU (SU-122, ISU-152) and artillery of all calibers (up to 203-mm) for direct laying fire. This increased the strike force and independence of the detachments and groups for carrying out combat missions.

The precise and carefully thought-out system made it possible to successfully capture the enemy strongpoints and centers of resistance and quickly rout its garrison that was 300,000-strong.<sup>7</sup>

Command and control of the troops in the course of the entire operation were characterized by a high degree of centralization and by the bringing of the command bodies as close as possible to the troops. Their greatest proximity was

noticed in the battles in Berlin. The subunit commanders were in the battle formations. The regiment commanders with their staffs were 200-300 m from the forward detachments and units while the command posts of the divisions were established 500-1,000 m away.<sup>8</sup> This made it possible for the commanders themselves to see the battle formations of the subunits and units and constantly control them in combat. The commanders of corps, divisions and units in a number of instances gave missions to subordinates directly in the battle formations.

The experience of widely employing smokescreens should be noticed. Prior to the start of the operation for 5 days a false smokescreen was set up in the area of the 21st and 52d Armies where a spurious troop concentration was feigned. After the start of the artillery softening up on the main sector of the First Ukrainian Front, smokescreens were set in a zone of 92 km and on the auxiliary sector, 218 km.

Taking an active part in the Berlin Operation were the 1st Polish Army (commander, Gen S. G. Poplawski) and the 2d Polish Army (commander, Gen K. K. Swerczewski). They made a worthy contribution to defeating the Berlin enemy grouping and were commended in the order of the Supreme Commander-in-Chief of the Soviet Armed Forces.

The victory salvos of the salute have died away. For around 40 years now the Soviet people have been living and working under peaceful skies. But the historic, unprecedented feats of our people which was crowned with the victory over Nazism will never die out in the memory of future generations.

The present generation of Soviet soldiers knows well and values the heroic past of our nation. The heirs of those who heroically fought against Nazism hold sacred everything that embodies the glory of the hero victors. Let not the modern fans of military adventures forget that the men of the USSR Armed Forces together with their brothers in arms from the Warsaw Pact nations are vigilantly guarding the socialist victories. Possessing first-rate weapons and having unsurpassed skill and conditioning, they are always ready to repel any aggressor.

#### FOOTNOTES

<sup>1</sup> "Istoriya vtoroy mirovoy voyny 1939-1945" [History of World War II of 1939-1945], Moscow, Voenizdat, Vol 10, 1979, p 311.

<sup>2</sup> Ibid.

<sup>3</sup> Ibid., p 315.

<sup>4</sup> Ibid.

<sup>5</sup> Ibid., p 344.

<sup>6</sup> Ibid., p 319.

<sup>7</sup> Ibid., p 339.

<sup>8</sup> "Operatsii Sovetskikh Vooruzhennykh Sil v Velikoy Otechestvennoy voynе 1941-1945" [Operations of the Soviet Armed Forces in the Great Patriotic War of 1941-1945], Moscow, Voenizdat, Vol 4, 1959, p 372.

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On the Employment of Aviation in the Berlin Operation

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 4, Apr 85 (signed to press  
25 Mar 85) pp 18-26

[Interview with Mar Avn S. I. Rudenko by Col O. K. Frantsev]

[Text] The journal's editors have turned to the prominent military leader, Hero of the Soviet Union, Mar Avn Sergey Ignat'yevich Rudenko with a request to describe the employment of the 16th Air Army in the Berlin Operation. Below we publish the text of the conversation between the editorial representative Col O. K. Frantsev and Mar Avn S. I. Rudenko.

[Question] Comrade Marshal Aviation, you were the commander of the 16th Air Army of the First Belorussian Front during the period of the preparation for and conduct of the Berlin Operation. The readers of our journal would like to hear from you the story of the role of aviation and certain particular features in its employment during this historic battle.

Please comment on the ratio of aviation forces of the opposing sides.

[Answer] The Nazi leadership, in preparing to repel the drive by the Soviet troops against Berlin, had concentrated in this sector the 6th Air Fleet and the Air Fleet Reich and which also included the air defense aviation of the Berlin Zone. As a total the enemy air grouping numbered over 3,000 aircraft, including 70 percent fighters.

What does this show? In the first place, the defensive nature of the air combat of the Nazi Air Force in the final stage of the war and, secondly, that in 1945, the German air industry was no longer capable of replenishing the losses suffered on the Soviet-German Front in attack aviation.

The enemy crews basically had combat experience and good professional skills. However, in fighter aviation, due to the replenishing of its pilots from bomber squadrons as well as after completing brief courses, the crews were not sufficiently able to develop group teamwork.

Since a large portion of the enemy air grouping could be used against the troops of the First Belorussian Front fighting on the main, Berlin sector, the Soviet Military Command concentrated more than 3,000 aircraft in the 16th Air Army and drew in 4 air corps of the 18th Army which had 800 long-range bombers. In addition, over 200 airplanes from the Polish Army were operating in the front's zone.

Thus, by the start of the Berlin Operation, Soviet aviation in the zone of the First Belorussian Front in quantitative terms significantly surpassed the air enemy. Qualitative superiority was also on our side as many enemy aircraft were inferior to the Soviet ones in terms of speed, maneuverability and fire power. Finally, a predominant majority of the Soviet flyers had rich experience and good skills.

[Question] Please tell us why, in planning the Berlin Operation, you proposed to the command of the First Belorussian Front that air supremacy was to be maintained by conducting air battles and engagements and rejected the effective method of destroying enemy aviation, namely strikes against airfields?

[Answer] There were substantial grounds for this. During the period of preparing for the Berlin Operation, having thoroughly studied the air situation, the command of the air army and the command of the front reached the conclusion that strikes against airfields under the existing situation was not the best method of operation. This viewpoint was also shared by the air representative of Headquarters, Cf Mar Avn A. A. Novikov. In attacking the airfields, we risked losing many aircraft. In the first place, enemy aviation was spread out and was in a rather high level of combat readiness so that we could not count upon the surprise factor of the attacks. Secondly, the well developed network of radio electronic posts and the availability of permanent airfields and highways provided the enemy with rapid maneuvering of the fighters along the entire front. Thirdly, the enemy troops were covered by around 200 antiaircraft batteries with 600 antiaircraft guns directly covering Berlin. This was an impressive force and it had to be taken into account. Fourthly, because of the distance we could not centralize command over the combat operations of the air formations, maneuver the forces and promptly increase them, while the enemy was able to do such. Moreover, we did not want to divert the aviation from direct troop support and we did not have enough time to organize attacks against the airfields. In considering all these circumstances, the decision was taken to destroy the enemy aviation in the air, particularly as we had superiority in fighters. As is known, our plans proved correct as a larger portion of the enemy combat aircraft was destroyed in air battles. Soviet aviation securely maintained air supremacy during the entire operation.

[Question] An enormous number of aircraft was operating on a comparatively narrow sector of the front. By what means were they controlled?

[Answer] Primarily by radio. But in preparing for the operation, we endeavored to imagine what would happen if, for instance, 2,500 radios would be operating simultaneously on short waves, including 200 in the ground network and 2,300 in the air. And a total of nine fixed waves had been assigned to the second network which chiefly controlled the aviation. The difference between the waves was slight and with intensive radio traffic there could be an intolerable overloading of the airwaves. It also had to be considered that the enemy would create interference. Moreover, the proximity of the adjacent frequencies impeded the accurate tuning of the radios the work of which left much to be desired. Under such circumstances it would be impossible to control the crews in the air.

We saw the only means in sharply restricting the number of users. For this reason we decided to order the regular pilots to operate under a receiving mode

and to turn on the transmitters only in exceptional instances. We saw no other solution.

We were also aided by radio relay communications which was first employed in the Berlin Operation. Initially in the 16th Air Army a company was assigned and later a battalion. Its well trained personnel provided uninterrupted operation. When our troops were pushing rapidly toward the Elbe, the distance between them and us increased significantly. Then we made use of radio relay communications. I was in the eastern part of Berlin but by telephone I was able to give missions to the commanders of air formations which were to the west of the city.

The checkpoints played a major role in controlling the aviation as well as two corps radar centers and one army one and these were employed in this capacity for the first time in the Berlin Operation.

I cannot help but mention the Chief of Staff, Gen P. I. Brayko, the Chief of the Operations Department, Col I. I. Ostrovskiy and the Signals Chief, Col N. V. Ignatov, who organized precise control over such a large number of air formations.

[Question] By the war's end, the number of aircraft had increased in the air armies. In this regard was there also an increase in the size of forces for attacking one standard objective?

[Answer] The eternal question of the required forces! I would answer this categorically, no there was no increase. At any time of the day we could assign virtually an unlimited number of aircraft for destroying a certain objective, but the staff made precise calculations and only as many aircraft sortied as were required for destroying one or another target. Here we selected the corresponding weapons and ammunition by which the target could be dependably destroyed.

[Question] Did your staff consider the operations of Allied aviation?

[Answer] It did, although the massed employment of Allied aviation was not envisaged during the time of conducting the Berlin Operation. Nevertheless, encounters with American and English aircraft in the air were possible. For this reason without exception all the pilots were ordered to most carefully study the identifying features of the Allied aircraft to avoid mistakes. At the command post of the 16th Air Army there was a specially assigned long-range radar for observing Allied flights in the skies of Berlin. Our units were immediately warned about the appearance of American and English aviation using all the communications channels.

[Question] It is well known that in the Vistula-Oder Operation, when after heavy rainfall the airfields became waterlogged and were unusable for take-offs and landings, the corp commander from your air army, Gen Ye. Ya. Savitskiy, showed resourcefulness in using individual areas of the highway as a runway. Was there such a necessity also in the Berlin Operation?

[Answer] On our front the autobahns and highways were not used as runways. This is why. The Vistula-Oder Operation was carried out at a rapid pace and to

a great depth. The fighter and ground attack aviation was scarcely able to move up behind the rapidly advancing tank armies which operated a great distance away from the all-arms ones. In order not to fall behind and to promptly support our mobile formations, the aviators had to land their planes on captured airfields in the enemy rear, employ the autobahns as runways and so forth. In the Berlin Operation in the combat zone of the First Belorussian Front the rate of advance was low and the depth of the operation was around 160 km, that is, over 3-fold less in comparison with the Vistula-Oder Operation. For this reason, there were no lags in moving up the aviation. Available to us were well-equipped, permanent airfields located around Berlin with concrete runways. And surprisingly they were undamaged. We could only rejoice at this fact.

[Question] The readers of our magazine would be interested in learning whether the enemy employed any new means of air combat.

[Answer] It did. In the course of the operation, the staff of the 16th Air Army received information on the appearance of unusual double aircraft in the air. It turned out that the Nazis had begun suspending a Junkers-88 under a Focke-Wulf-190 employing this as a giant bomb. Here is what I heard from the antiaircraft gunners about their employment.

The double aircraft approached the crossing over the Oder. The engines were operating on both. Then these aircraft began diving at the crossing. At an altitude of 800-900 m, the manned Focke-Wulf pulled away, turned sharply to the side and returned to the west. But the Junkers packed with explosive continued to dive at the same angle. The antiaircraft gunners, ready to open fire, realized that the flying bomb would miss the target. It exploded in the ground a significant distance away from the crossing. Stone houses were destroyed by the explosion in a radius of 150 m and fires broke out. The enemy attempted 12 times to thus destroy the bridges across the Oder. Two such "stackers" were downed by our pilots M. Petrov and V. Petkevich. One was destroyed by the anti-aircraft gunners. The remainder did not hit the target.

After the war I learned that the Nazis had been able to employ 200 such systems against the Soviet and Allied troops, giving them the code name "Father and Son."

Another innovation which we encountered in conducting the Berlin Operation was the ME-262 jet aircraft. These surpassed the Soviet fighters in speed but nevertheless they could be destroyed in air combat. Our pilots downed the first one on 22 March 1945. The ME-262 which were produced in insignificant numbers did not play any marked role in the struggle for air supremacy.

[Question] Were air engagements conducted in the course of the Berlin Operation?

[Answer] Yes, in the course of the operation there were numerous air battles which often developed into major air engagements. Thus, on 18 and 19 April, the Nazi Command, in seeing the defenses which they had prepared collapse, decided to slow down the advance of the Soviet troops by air strikes. But the fighters from the air corps of Ye. Ya. Savitskiy and B. A. Sidnev as well as the air division of G. V. Zimin thwarted these plans.

In 2 days the Soviet pilots conducted 312 air battles and downed 173 enemy planes. Our losses were 108 aircraft. In the course of the air battles and engagements there were also shortcomings. I recall that in the evening of 18 April, I was forced to issue to the commanders of the fighter air formations a combat order which stated: "Enemy aircraft frequently endeavor to reach our troops from the east at a roof-top altitude. Our fighters fly in groups at high altitudes and this deprives them of tactical activeness. Consider this and in accord with enemy tactics organize the countering of the enemy." In the following days the fighters were stacked across all altitudes and prevented the Nazis from achieving air supremacy on even one area of the front.

[Question] How did you organize command over the assault aviation under the conditions of the conduct of street battles?

[Answer] It must be said that this was the first time we encountered the problem of employing aviation in such a major city as Berlin. In order to better control it, special guidance points had to be organized. There were two of these. The main one was in the area of the 8th Guards Army and was called Eastern while the other auxiliary one was located in the area of the 5th Attack Army and called Northern. The mission of these posts was primarily to accurately lead the bomber groups to the objectives of the attack. In a large city it is difficult to find a street, a house or a pedestrian. It is even harder to locate the designated targets from the air even with good weather conditions. And Berlin was on fire. Columns of smoke and ash rose up to 2 km. Nevertheless it was essential to precisely establish the line of contact between the enemy and our troops which were advancing toward the city center from various directions.

The bomber groups, in traveling to the designated objectives, were to pass over both guidance points. As for the crews, they either received confirmation of the mission or were reassigned. The guidance post headed by my deputy, Gen A. S. Senatorov, was 12-18 km from the forward edge by a characteristic marker, Lake Neuskedlersee. In reaching it, the pilots and navigators immediately felt more confident even with limited visibility because beyond this it was easier for them to determine the heading and the accurate distance to the target. In establishing radio contact with the guidance post they waited for confirmation and if such was not given, the planes made a second approach.

This was the first line of identification and guidance. Beyond it, closer to the forward edge, was a second one. Here on the roofs of houses were air spotters with radios and rocket guns. They marked the forward edge. Spotting the signal rockets, the pilots following the characteristic markers and target designations of the spotters, quickly located the targets.

[Question] After the relocating of aviation to airfields which were near Berlin, did the aviators also have to conduct ground battles as had been the case in the Vistula-Oder Operation?

[Answer] They did. For example, on 2 May, around 3,000 enemy soldiers and officers with tanks and self-propelled guns began to break out of the Shpandau area to the west. On their path was Dalgow Airfield. The aviators promptly spotted the danger. The aircraft stationed here from the 265th Fighter Division took off and flew to Werneuchen. The personnel from the headquarters of the corps of

Gen Savitskiy as well as the technicians, mechanics and men of the BAO [airfield service battalion] upon the alert took up an all-round defense. Regardless of the repeated attacks by infantry supported by tanks and mortar fire, the Nazis did not succeed in breaking through to the west. Coming to the aid of the aviators were several artillery battalions and 12 tanks and by evening rifle units had moved up. The engagement lasted 18½ hours and ended with the complete defeat of the Nazis. Around 1,500 enemy soldiers and officers were taken prisoner. This was not the only such instance in the Berlin Operation. Personnel from the air units of the corps of Gen B. A. Sidnev also had to hold the captured airfields by weapons in hand.

[Question] Was the location of Hitler's headquarters in Berlin known? Were you given the mission of destroying it from the air?

[Answer] I personally did not know the location of Hitler's headquarters and I did not receive such a mission from the commander of the front. I feel that we would scarcely have succeeded in hitting a pin-point target, a bunker located deep underground, with the means which we then possessed. But I was given the mission of preventing the rulers of the Nazi Reich from taking off from Berlin. Having lost all the airfields in Berlin and near it, the Nazi Command had begun to prepare the main avenue of the Tiergarten for the taking off and landing of aircraft. We learned this on 27 April. In addition, the commander of the fighter air corps, Gen Ye. Ya. Savitskiy, while flying over Berlin, noticed that a 2-seat liaison aircraft had taken off from the Imperial Chancellery and shot it down.

I decided to send out fighters to reconnoiter the Tiergarten. The mission was a particularly important one. The choice fell on Oganesov and Dvurechenskiy. Since the city was heavily covered by smoke, they had to fly at roof-top level. In the center of the Tiergarten there were many antiaircraft weapons but the pilots safely reached the target and spotted two light camouflaged air transports and several tanks on the square between the Reichstag and the Brandenburg Gate. On the following morning, Oganesov led two groups consisting of eight bombers and eight ground attack planes there. In approaching the target, the pilot dove at it and opened fire with tracers. Thus he was able to mark the objective of the attack. Having received a precise target designation, the bombers dropped their bombs on the avenue while the ground attack planes attacked the tanks and aircraft. In the aim of determining the results of the attack, Oganesov circled over the park and saw many craters on the concrete avenue and a pile of smoking metal where the aircraft had stood.

He had just radioed that the mission had been completed and the target destroyed when an antiaircraft shell caught his plane. The wounded pilot with difficulty brought his damaged fighter back to the airfield. He was pulled from the cockpit and sent to the hospital. Subsequently, Oganesov was awarded the title of Hero of the Soviet Union.

At the end of the day, other sniper crews of divebombers took off for the area of the Tiergarten. These were headed by the regimental commanders, Hero of the Soviet Union Voronkov and Yakobson. As a result of the strike, the avenue was almost completely destroyed. But we were not satisfied with this and each day our divebombers took aim at this only place in Berlin suitable for the taking

off and landing of the Nazi aircraft. Our fighters also patrolled in the area of the park, relieving one another.

Subsequently, Hitler's captured chief pilot Bauer, in assessing the operations of our aviation said: "We sat in the underground levels of the Imperial Chancellery without being able to go out and look at the light of day." And here is what the Deputy Minister of Propaganda Frietsch stated in his testimony: "The Führer with his immediate party initially intended to take shelter in the Southern Tyrol. At the last moment, when the Soviet troops were approaching Berlin, there were talks about evacuation to Schleswig-Holstein. Aircraft were kept fully ready in the area of the Imperial Chancellery but soon thereafter were destroyed by Soviet aviation."

Later, when the battles were over, I inspected the area where we had sent the bomber and ground attack groups. The concrete avenue was pitted with craters and unsuitable for take-off. To the side I saw the remnants of two light aircraft and unexpectedly discovered a ruined Junkers-52 transport. I admit that I felt proud of our pilots and was indescribably happy that we had prevented the leadership of the Reich from taking off from besieged Berlin.

[Question] Please tell us about Operation Salute.

[Answer] When our troops were approaching Berlin, there would be fighting for each street and each house. In order to break the enemy's stubborn resistance, an air operation was carried out under the code name of Salute. Its essence was to destroy the most important objectives which ensured the viability and defense capability of the Berlin garrison. In addition to defense industry objectives, the enemy reserves concentrated in the Tiergarten and the major strongpoints were to be bombed. On 25 April, two massed raids were made. The first was in the day and the second in the evening. The first involved around 900 aircraft and the second up to 600. The length of each of the raids was 1 hour. In order to simplify the carrying out of the mission for such a large number of crews, I decided not to vertically separate the aircraft. The raids were made wave after wave from the signals of the group leaders.

The target areas were heavily covered with smoke and the low cloudiness forced the planes to the ground. The antiaircraft batteries put up strong fire. All the aircraft (even the PE-2) carried out the bombing solely from level flight. Regardless of the difficulties, the crews carried out the mission. This was proven by the photographs taken by them.

The massed raids by the formations of the 16th Air Army were proceeded by a nighttime raid against the center of Berlin with 600 IL-4 aircraft from the 18th Air Army. On the following night they again bombed the objectives located in the central districts of the city. Due to the joint strikes, the sewage systems, the water lines, telephone exchanges and electric plants were destroyed, ammunition dumps were blown up and many enemy defensive installations suffered.

[Question] How did aviation operate when our units closed with the enemy in the center of Berlin?

[Answer] We canceled the combat sorties, fearing that we would hit our own troops. But the commanders of the ground units insisted that we make even non-combat runs. "Don't let the pilots bomb or fire," they said, "but merely make one or two passes just above the Nazis. Hearing the roar of the aircraft, the Nazis take cover and cease firing. That is all we need as we can then quickly break into the strongpoint." We met their request and granted the non-combat sorties of the ground attack planes, the mere appearance of which spread panic among the enemy.

[Question] What new appeared in the tactics of the branches of aviation in the course of carrying out the Berlin Operation?

[Answer] When preparations were underway for the operation, we realized that we were on the threshold of victory and were completely engrossed with the concern of how to better carry out the given missions in employing the experience acquired in the previous operations. At the same time, none of us was concerned with the theoretical elaboration of air force tactics. But the course of events and enemy tactics as well as the entire developing situation suggested how to better employ one or another branch of the frontal [tactical] aviation.

Later, having analyzed the combat operations, we were persuaded that combat practice provided much that was new or confirmed the effectiveness of one or another method of operations. Thus, the ground attack aviation was enriched with the experience of making concentrated strikes by large forces (more than 100 aircraft) against objectives on the battlefield. The "circle" remained the basic battle formation of the ground attack planes over the target. However, with large groups (18-36 aircraft), the "circle" was formed from two-plane elements, fours and even sixes formed up in a "echelon." This was a further improvement in the battle formations of ground attack planes over the target. Such a battle formation increased the strength of the ground attack plane strikes.

New procedures can also be noted in combating the ground air defense weapons. Enemy antiaircraft artillery was usually neutralized by specially assigned groups of ground attack planes or by individual crews. In the Berlin Operation in operations against objectives having strong air defenses, the entire group of ground attack planes on the first pass using machine gun and cannon fire as well as rockets, neutralized the fire of the antiaircraft artillery. Only in the subsequent passes did the ground attack planes hit the assigned targets.

The frontal bombers as before widely employed the method of attacking targets from a dive. The new feature here was that in group operations, instead of a "wedge of a wing" battle formation, they frequently employed a "wedge of five" battle formation. This increased the strike force of each group and raised its defense capability against enemy fighter attack.

The tactics of fire aviation was the most diverse. The fighter formations which covered the troops on the battlefield had a vertical separation of their combat formations from 500 to 5,000 m and in depth up to 40 km over enemy territory. Such a fighter configuration made it possible to maneuver from one patrol area to another, to quickly concentrate efforts in any region and intercept Nazi aircraft at the distant approaches to the battlefield, preventing them from

attacking our troops. However, the main increase in forces in air battles was provided chiefly from a status of "airfield alert." This was possible due to the wide use of radars and good communications in the fighter control system. In the aim of ensuring surprise in bomber attacks, feint groups were widely employed and this for those times was an innovation. In the Berlin Operation, fighter operations against ground targets were also carried out with great effectiveness.

[Question] When was the last air battle and who conducted it?

[Answer] I am not prepared to answer this question. It has been no more nor less than 40 years. I simply do not recall this. However, I well recall what was the last combat assignment....

On 7 May, the commander of the front, G. K. Zhukov, ordered me to prepare an escort of 18 fighters. The Allied delegation and representatives from the German Command were to arrive at Tempelhof Airfield for signing the unconditional surrender. We entrusted this historic mission to the pilots of the 515th Fighter Regiment from the XIII Air Corps. Maj M. N. Tyul'kin (subsequently Hero of the Soviet Union) was the commander of the group of cover and escort fighters.

On 8 May, the Allied delegation landed at Tempelhof Airfield escorted by an honor escort of Soviet fighters. The delegation was headed by the Deputy Supreme Commander-in-Chief of the Allied Armed Forces, Cf Air Mar Arthur V. Tedder. It included also the Commander of the U.S. Strategic Aviation, Gen Carl L. Spaatz. The French general Delattre de Tassigny arrived somewhat later. The representatives of the German Wehrmacht Keitel, Stumpf and Friedeburg were brought on one of the Allied transports. They signed the act of unconditional surrender of the Nazi German Armed Forces.

The day which has gone down in history as Victory Day was the happiest day in my life as it was for scores of millions of Soviet people whose lot it was to endure such hardships.

[Question] Would you not like to say a word to the readers of the journal in concluding your talk?

[Answer] I have been happy to take this opportunity granted me. First of all, with all my heart I congratulate the readers of your journal on the significant date, the 40th anniversary of the victory over Nazi Germany. Moreover, I, as a person who has dedicated his entire active life to aviation, would like to turn to the younger generation of aviators who now are mastering the most advanced jet aircraft and possess modern powerful weapons. Study the experience of the Great Patriotic War. It has not lost its significance under present-day conditions and continues to play an enormous role in indoctrinating and training the personnel of our glorious Air Forces.

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## Employment of Tank Armies in the Berlin Operation

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[Article by Col Gen Yu. M. Potapov]

[Text] The men of the armored and mechanized troops of the Soviet Army made a major contribution to defeating the enemy in the Berlin Operation. In all of its stages, from the breaking through of the Oder-Neisse Defensive Line to the storming of Berlin, the Soviet tank troops in fact had to conduct all types of combat operations. Together with the other branches of the Ground Forces and aviation, they broke through the defenses, they pursued the retreating enemy, they crossed water barriers, they repelled Nazi counterstrikes, they surrounded and destroyed enemy groupings and conducted street battles in the major cities, including in Berlin.

By the start of the operation, the three fronts had 4 tank armies, 10 separate tank and mechanized corps, 16 separate tank and self-propelled artillery brigades and over 80 separate tank and self-propelled artillery regiments.<sup>1</sup> The tank armies which comprised the First Belorussian and First Ukrainian Fronts, according to the plan for the operation, were to be employed to exploit the success of the fronts. Together with the all-arms armies, they were to surround the basic enemy grouping on the Berlin sector, split and destroy it.

The 1st and 2d Guards Tank Armies of the First Belorussian Front were to be committed to the engagement from the Kustrin bridgehead to a depth of 6-9 km, after the all-arms field forces had captured the strongpoints on the Seelow Hills. The basic mission for the 2d Guards Tank Army (commander, Col Gen Tank Trps S. I. Bogdanov) was to outflank Berlin to the north and northeast and capture its northwestern part. The 1st Guards Tank Army (commander, Col Gen Tank Trps M. Ye. Katukov), reinforced by the XI Tank Corps, was to attack Berlin from the east and initially capture its eastern and then southern suburbs. Such a decision to employ this field force was related to the desire of the front's commander, MSU G. K. Zhukov, to strengthen the force of the strike on the main sector, to accelerate the breakthrough of the Nazi defenses and prevent the pull-back of the main forces of the enemy 9th Army to Berlin.<sup>2</sup>

The commander of the First Ukrainian Front, MSU I. S. Konev, decided to commit the 3d Guards Tank Army (commander, Col Gen P. S. Rybalko) and the 4th Guards Tank Army (commander, Col Gen D. D. Lelyushenko) to battle on the second day of the operation after the all-arms formations had reached the left bank of the Spree River, with the mission of developing a rapid offensive to the northwest and on the sixth day of the operation the forward detachments should capture the areas of Rathenow, Brandenburg and Dessau, having created conditions for the encirclement of the enemy Berlin grouping. One tank corps of the 3d Guards Tank Army was to advance on Berlin from the south.<sup>3</sup> Subsequently, in the course of preparing for the operation, the commander of the First Ukrainian Front altered his decision for employing the tank field forces. He ordered the army commanders to be ready to commit to battle the forward detachments from the first echelon corps on the first day of the operation and together with the rifle troops to complete the breakthrough of the main enemy defensive area and capture

a bridgehead on the Spree. Here one of the major tasks for the forward detachments was to prevent the pullback of troops planned by the enemy command from the line of the Neisse River to the Spree.<sup>4</sup>

The operational configuration of the tank armies for commitment to battle, with the exception of the 1st Guards, was in two echelons. The second echelon included the mechanized corps. The 1st Guards Tank Army had all three corps in a single echelon while its reserve was comprised of a separate tank brigade and separate tank regiment.

Before the tank armies of the First Belorussian Front were committed to battle there was to be a 20-minute artillery softening up. For supporting the commitment the artillery of the tank field forces and a large portion of the artillery from the rifle corps where the tank armies were to be committed were employed. As a total for this purpose they planned to use 2,250 guns and mortars, making it possible to establish a density of 116 guns and mortars per kilometer of front in the area where the 2d Guards Tank Army was to be committed to the breakthrough and 60 guns and mortars per kilometer of front in the area of the 1st Guards Tank Army.<sup>5</sup>

No artillery softening up was planned before the commitment of the tank armies of the First Ukrainian Front to battle but a significant amount of artillery was involved for supporting the commitment.

Great attention was given to air support for the commitment of the tank armies to the engagements as well as their operations in the operational depth. As a rule, formations of bomber, ground attack and fighter aviation were placed under the command of the army commanders for the duration of the operation. For example, air support for the combat operations of the 3d Guards Tank Army was entrusted to the II Guards Ground Attack Corps and IV Bomber Corps as well as an air division of the II Fighter Air Corps of the 2d Air Army.<sup>6</sup>

Important significance was given to organizing dependable and continuous cooperation between the tank armies and aviation. The command posts of the air corps were deployed close to the command posts of the tank armies. Staff officers from the air corps or air divisions were sent out to the command posts of the commanders of the tank (mechanized) corps with communications equipment while air spotters were assigned to the battle formations of the forward brigades.

A particular feature in the employment of the tank armies during the first stage of the operation was that for increasing the rate of advance of the rifle divisions and for strengthening the attacks against the enemy, their formations in cooperation with the infantry, artillery, combat engineers and aviation took an active part in breaking through the enemy Oder-Neisse line. Thus, on the First Belorussian Front, the 1st and 2d Guards Tank Armies were committed to battle in the second half of 16 April. Considering the fierce enemy resistance, the commander of the fronts decided to employ the main forces of both tank armies for breaking through the enemy's second and third defensive zones. Their formations, together with the rifle troops, artillery, aviation and engineer units and subunits continuously assaulted the enemy positions for 3 days.

In the aim of quickly completing the breakthrough of the enemy defenses on the Neisse River, the commander of the First Ukrainian Front on the first day of the operation employed the XXV and IV Guards Tank Corps as well as the forward detachments from the tank and mechanized corps of the 3d and 4th Guards Tank Armies. By combined effort, the all-arms and tank formations, with artillery and air support, by the end of 16 April had broken through the main enemy defensive area on a front of 26 km and had advanced to a depth of up to 13 km. On the next day, the main forces of the tank armies were committed. By common effort, by evening they had completed the breakthrough of the second defensive area. Together with the 13th Army, the tank armies from the First Ukrainian Front broke through the third defensive area of the Nazi troops. This occurred on 18 April after they had crossed the Spree River without a halt.

In the second and third stages of the operation, the tank armies of the fronts were employed differently. Thus, the 3d and 4th Guards Tank Armies of the First Ukrainian Front, without encountering serious enemy resistance after crossing the Neisse Defensive Line, broke out into the operational expanse and, in committing the second echelons, began to successfully develop the offensive to the northwest, toward Berlin. Advancing at a rate of 30-50 km a day, by the end of 21 April they had reached the outer defensive perimeter of the capital of Nazi Germany. By this time, they were 30-35 km away from the all-arms field forces.<sup>7</sup> The 3d Guards Tank Army, reinforced by the X Artillery Corps, the 25th Artillery Breakthrough Division, the 23d Antiaircraft Artillery Division and supported by the II Fighter Air Corps, from the morning of 22 April, deployed all three corps in the first echelon and began to attack the enemy fortifications. Its troops broke through the outer defensive perimeter of the Berlin Fortified Area and by the end of the day had initiated battles on the southern edge of the capital of the Nazi Reich. The 4th Guards Tank Army which was fighting to the left, by the end of 22 April, had also broken through the external defensive perimeter and, reaching the line of Sarmund, Bielitz, had taken up an advantageous position for linking up with the troops of the First Belorussian Front, and together with them completing the encirclement of the entire Berlin enemy grouping.<sup>8</sup>

A more difficult situation had developed for the 1st and 2d Guards Tank Armies of the First Belorussian Front. After breaking through the Oder Defensive Line, they, as before, together with the rifle formations had at great cost to overcome the fierce Nazi resistance on all the defensive lines which had been prepared previously by the enemy. Regardless of this, the 1st Guards Tank Army advancing together with the 8th Guards Army, by 21 April had reached the outer defensive perimeter of the Berlin Fortified Area. The 2d Guards Tank Army fought together with the 3d and 5th Attack Armies. By the end of 21 April, these field formations had overcome enemy resistance on the outer defensive perimeter and reached the northeast outskirts of the city. From the morning of 22 April, both tank armies were fighting directly in Berlin. By the end of the same day, with the reaching of the northwestern outskirts of the city by the IX Guards Tank Corps of the 2d Guards Tank Army together with units from the 47th Army, conditions were established for completing the encirclement and splitting the entire Nazi Berlin grouping.

The combat employment of the tank armies in the course of storming Berlin was very unique. The problem was that all the tank field forces, with the exception

of the 1st Guards Tank Army, had been given independent areas for advance. In the aim of improving the conditions for fighting in a large city, they were reinforced with rifle formations. Thus, the 3d Guards Tank Army had received the 20th, the 48th Guards and 61st Rifle Divisions from the 28th Army.<sup>9</sup> The 2d Guards Tank Army had been reinforced by the 1st Infantry Division of the Polish Army while the 4th Guards Tank Army had received the 350th Rifle Division. Corps from the 1st Guards Tank Army advanced along with formations of the 8th Guards Army.<sup>10</sup>

In analyzing the experience of the offensive of tank armies in a large city in independent areas, it can be concluded that, regardless of the reinforcing of them with rifle formations, they suffered high losses and were deprived of their main qualities--maneuverability and strike power. Such employment of them was justified only by the fact that the Berlin Operation was the concluding one and in the course of it in a short period of time and at any price the opposing enemy grouping had to be defeated and the capital of the Nazi Reich taken.

The experience of the operation disclosed the advisability of the operational massing of armored and mechanized troops on the most important sectors. The establishing of mobile groups consisting of two armies each in the First Belorussian and First Ukrainian Fronts was one of the most important prerequisites for conducting the operation.

#### FOOTNOTES

<sup>1</sup> "Istoriya vtoroy mirovoy voyny 1939-1945" [History of World War II of 1939-1945], Moscow, Voyenizdat, Vol 10, 1979, p 345.

<sup>2</sup> See ibid., p 317.

<sup>3</sup> See: "Sovetskaya Vojennaya Entsiklopediya" [Soviet Military Encyclopedia], Moscow, Voyenizdat, Vol 1, 1976, p 457.

<sup>4</sup> See: "Istoriya vtoroy mirovoy...," Vol 10, p 318.

<sup>5</sup> "Operatsii Sovetskikh Vooruzhennykh Sil v Velikoy Otechestvennoy voynye 1941-1945" [Operations of the Soviet Armed Forces in the Great Patriotic War of 1941-1945], Moscow, Voyenizdat, Vol IV, 1959, p 316.

<sup>6</sup> TsAMO SSSR [Central Archives of the USSR Ministry of Defense], folio 236, inv. 20933, file 1, sheets 35-38.

<sup>7</sup> "Istoriya voyennogo iskusstva" [History of Military Art], Moscow, Voyenizdat, 1984, p 323.

<sup>8</sup> See: "Istoriya vtoroy mirovoy...," Vol 10, p 333.

<sup>9</sup> See: "Posledniy shturm" [The Last Storming], Moscow, Voyenizdat, 1975, p 320.

<sup>10</sup> See: "Istoriya voyennogo iskusstva," p 327; "Posledniy shturm," p 324.

## Combat Employment of Artillery in the Berlin Operation

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 4, Apr 85 (signed to press  
25 Mar 85) pp 31-35

[Article by Doctor of Technical Sciences, Prof, Col Gen A. I. Matveyev, Honored Scientist and Technician of the RSFSR]

[Text] For carrying out the Berlin Operation, the Soviet Command employed a quantity of artillery which had never existed in any previous operation. Some 41,600 guns and mortars (not counting antiaircraft artillery) had been concentrated in the areas of the First and Second Belorussian Fronts and the First Ukrainian Front after an artillery regrouping of unprecedented scale and speed.<sup>1</sup> This made it possible on the sectors of the main thrusts to establish sufficiently high artillery densities. Thus, the First Belorussian Front had around 300 guns and mortars per kilometer of breakthrough sector, the First Ukrainian had almost 270 and the Second Belorussian over 230.

In organizing the artillery grouping it was assumed that each all-arms commander should have his own artillery group and by its firing he could influence the course of combat. Here the command of the fronts approached the organizing of the artillery groups in a creative manner, considering the nature of the enemy defenses and the terrain conditions. Thus, in the armies of the attack grouping of the First Belorussian Front the troops of which during the first stage of the operation were to break through a strong and deeply echeloned Nazi defense, strong army artillery groups were organized. On the First Ukrainian and Second Belorussian Fronts, due to the fact that the defenses were to be broken through with the preliminary crossing of rivers, the basic mass of artillery was assigned to organize regimental and army artillery groups.<sup>2</sup>

The charts for the artillery offensive were also worked out in accord with the specific features of the tasks to be carried out during the first stage of the operation. On the First Belorussian Front, the artillery softening up was initially planned to last 45 minutes. However, considering the great saturating of the troops with artillery as well as the necessity of achieving tactical surprise, on 8 April 1945, the commander of the front approved a schedule chart which provided for a powerful 30-minute artillery softening up under nighttime conditions using searchlights (two intense shellings of 10 minutes each at the beginning and end of the artillery softening up and 10-minute deliberate fire between these).<sup>3</sup> After a reconnaissance in force, the command of the front reached the conclusion that it would not be advisable to establish a uniform duration of the artillery softening up for all the armies of the attack grouping. In the 47th Army, this was shortened to 25 minutes by reducing the first intense shelling, and in the 5th Attack Army it was a 20-minute intense shelling with increasing density against the targets in the enemy tactical defensive zone to a depth of up to 8 km; in the 8th Guards Army, this consisted of two 5-minute intense shellings at the beginning and end with 15-minute deliberate fire planned between these.<sup>4</sup>

The carrying out of a brief and at the same time powerful artillery softening up in breaking through the engineer prepared and solidly occupied enemy defenses was a new phenomenon, since up to the Berlin Operation, as a rule, it was

considered obligatory to have an extended period of neutralization and destruction. With the adopted schedule of artillery softening up for destroying and neutralizing the enemy objectives and targets, large-caliber weapons were employed and these carried out concentrated fire against them over the entire artillery softening up.

The artillery support for the infantry and tank attack on the First Belorussian Front was originally planned to a depth up to 8 km (2 km with a double rolling barrage, 2 km with a single rolling barrage and subsequently by successive concentration of fire [PSO]). In adjusting the plan for the artillery offensive on the basis of the results of the reconnaissance in force, the depth of supporting the attack with a single rolling barrage in the 8th Guards Army was shortened to 1.6 km. In the 5th Attack Army, where the reconnaissance in force had been most successful and the main forces were to basically break through only the third position of the main defensive area, support for the attack was to be carried out by a single rolling barrage to a depth of 1 km and then by the successive concentration of fire.

On the First Ukrainian Front, where the troop offensive was to start with the crossing of the Neisse River, the artillery softening up was planned to last 145 minutes: 40 minutes of artillery softening up before the crossing, 60 minutes in support of the crossing and 45 minutes of artillery softening up for the infantry and tank attack beyond the river.<sup>5</sup>

Softening up for the crossing started with a 10-minute rolling barrage by all the artillery against the strongpoints on the forward edge and in the immediate depth (to 2-2.5 km), against the artillery and mortar batteries, staffs, communications centers and reserves. Then for 25 minutes, the artillery neutralized and destroyed the enemy personnel and firing points in the first and second trenches. The softening up for the crossing ended with a 5-minute intense shelling against the forward edge.<sup>6</sup>

Support for the crossing was one of the most difficult and responsible periods of the artillery softening up. The mission of the artillery included the destruction and neutralization of the enemy weapons impeding the crossing (in particular the flanking firing points, the artillery and mortar batteries) with the gradual shifting of fire deeper into the enemy defenses, as well as support for the capturing and holding of the bridgeheads. The weapons assigned for direct laying as well as the mortar subunits of the second echelons and mobile formations were to fire against the first and second enemy trenches and thereby support the crossing of the Neisse by the reinforced battalions of the first echelon rifle divisions with the support guns, mortar companies and batteries of the first echelon rifle regiments moving with them to the western bank of the river. Having reached the western bank, these immediately opened fire, covering first of all the flanks of the crossing subunits. Artillery support for the crossing was complicated by the fact that during the crossing of the river its entire floodplain was covered in haze and the artillery even with direct laying fired largely at unseen targets. With the start of the crossing, artillery fire was combined with bomber air strikes against the artillery batteries, headquarters, strongpoints and centers of resistance.

Artillery softening up for the infantry and tank attack on the other side of the river included a 35-minute period of neutralizing and destroying personnel and firing points in the strongpoints on the forward edge and in the near tactical depth and a 10-minutes intense shelling against these same targets and areas. For destroying targets on the forward edge and for cutting passages through the wire obstacles, strong weapons groups were established for direct laying fire in the armies of the attack grouping. For example, in the 13th Army, 457 weapons were assigned to such groups.<sup>7</sup>

Due to the covered nature of the terrain, the infantry and tank attack was to be supported by a 10-minute (until reaching the forest) PSO and then subsequently by called-in fire. Thus, in the 5th Guards Army this was to be carried out following five PSO lines to a depth of up to 7 km.

The troops of the Second Belorussian Front at the outset of the offensive were to cross two channels of the Oder. The initial plan for the artillery offensive envisaged a version of artillery softening up in the event of unsuccessful operations by the forward battalions and the necessity of supporting the crossing of the Ost Oder by the main forces. Its duration was set as follows: 90 minutes in the 65th Army, 120 in the 70th and 110 in the 49th. However, as a result of the fact that the forward and reconnaissance subunits on 18 and 19 April succeeded in crossing the Ost Oder, covering and clearing the enemy out of the territory between the channels of the Ost and West Oder, the duration of the artillery softening up was shortened as follows: to 45 minutes in the 65th Army, and to 60 in the 70th and 49th Armies. The setting out of smokescreens during the crossing of the river by the 65th Army was assigned to mortar groups which were specially established in the corps (each with 16 82-mm mortars) and these operated upon the instructions of the formation commanders.

Due to the difficult conditions of the crossing and the need to support it by artillery fire from the east bank of the Ost Oder, a decision was taken to move all the regimental and battalion artillery to the west bank along with the forward rifle battalions and for this reason would not be involved in the artillery softening up.

The army commands endeavored to saturate the battle formations of the rifle troops with artillery from the outset of the crossing. For this reason the artillery crossed to the western bank in a maximum short time. Rafts and boat ferries made by the rifle divisions were widely employed for moving the regimental and battalion artillery.

Support for the attack in all the armies, in accord with the instructions of the front commander, was carried out by the PSO method against the centers of resistance and strongpoints to the entire tactical depth. When the troops of the front reached the bank of the West Oder, the basic mass of the artillery from the army artillery groups was transferred to the rifle corps.

In preparing for the operation and in the course of it, one of the important missions carried out by the artillery was the encountering of enemy artillery. Counterbombardment was planned by the artillery staffs of the field forces and was basically carried out by the army artillery groups. Since their fire capability did not always ensure the achieving of the required superiority over

enemy artillery, the corps and divisional artillery groups as well as the artillery of the mobile groups were also employed.

A significant amount of artillery from the First Belorussian and First Ukrainian Fronts was assigned to support the committing of the tank armies to battle. Thus, on the First Belorussian Front for supporting the commitment of the 1st and 2d Guards Armies, some 2,250 guns and mortars were employed altogether.<sup>8</sup> Important significance was also given to the artillery support of them in the operational depth. For example, for supporting the 3d and 4th Guards Tank Armies of the First Ukrainian Front, areas of successive fire concentration on nine lines were designated to a depth of up to 20 km. Artillery correction officers were sent out to call in fire against these areas to the forward units of the tank corps.

In the course of the operation, the artillery successfully carried out all the designated missions of fire damage to the enemy. In cooperation with aviation, it ensured not only the breaking through of the Oder-Neisse defensive line but also the defeat of the surrounded enemy groupings. It played a particularly major role in the storming of strong centers of resistance set up in population points and in the taking of Berlin.

For the storming of Berlin, around 14,500 guns, mortars and rocket artillery units were used in the troops of the First Belorussian and First Ukrainian Fronts.<sup>9</sup> The specific conditions of combat in the city required the employment of new forms of the combat use of artillery. Thus, for the convenience of its control in the process of the artillery offensive, for maintaining continuous contact with the infantry and tanks as well as for supporting the actions of the assault detachments in the course of the street battles in Berlin, artillery destruction groups were organized in the divisions and corps and long-range groups in the all-arms armies. The corps groups included from three to five artillery brigades having special-power battalions. The artillery groups of the rifle divisions consisted of three-five battalions. The regimental artillery groups were not established and all the artillery assigned to rifle units, including the large-caliber guns, was assigned to the assault detachments and groups. The basic mass of the guns of the assault detachments and groups was used for direct laying.

In the course of the street battles, of great importance was the fire of the large-caliber guns (152 mm and 203 mm) set for direct laying as well as the firing of individual rocket units from the carrying case also by direct laying.

In the course of the storming of Berlin, along with covering the troops, anti-aircraft artillery took an active part in the battles against the ground enemy. The fire of antiaircraft guns was particularly effective in firing on the upper stories of multistory buildings.

In summing up, it must be pointed out that the combat employment of artillery during the operation was marked by its skillful and decisive massing on the sectors of the main thrusts of the fronts and armies as well as by the achieving and maintaining of steady fire superiority over the enemy.

Indicative is the absence of any routine in planning for the artillery offensive. The duration and configuration of the artillery softening up were determined considering the nature of the enemy defenses, the physiographic particular features of the terrain and other situational conditions. For the first time in the course of the war, the artillery softening up and the attack of the troops on the main sector of the offensive of the First Belorussian Front were conducted at night. With the start of the offensive, more than 140 antiaircraft searchlights were turned on and these were positioned at intervals of 200 m apart. They illuminated the battlefield and at the same time blinded the defending enemy troops. This was unexpected for the enemy, it stunned it and for a certain time had a strong psychological impact. Also of definite interest is the planning and carrying out of the artillery support for the crossing of such major water barriers as the Oder and Neisse, in the course of which effective use was made of artillery firing with direct laying as well as specially organized mortar groups for setting smokescreens. Attention should also be given to the practice of establishing an artillery grouping to be used in the battles for Berlin. The experience of the combat employment of artillery in the Berlin Operation is also instructive in resolving many other questions.

#### FOOTNOTES

1 "Istoriya vtoroy mirovoy voyny 1939-1941" [History of World War II of 1939-1945], Moscow, Voenizdat, Vol 10, 1979, p 315.

2 See: "Sovetskaya artilleriya v Velikoy Otechestvennoy voynye 1941-1945 gg." [Soviet Artillery in the Great Patriotic War of 1941-1945], Moscow, Voenizdat, 1960, p 686.

3 "Berlinskaya operatsiya 1945 goda" [The Berlin Operation of 1945], Moscow, Voenizdat, 1950, p 95.

4 "Operatsii Sovetskikh Vooruzhennykh Sil v Velikoy Otechestvennoy voynye 1941-1945" [Operations of the Soviet Armed Forces in the Great Patriotic War of 1941-1945], Moscow, Voenizdat, Vol IV, 1959, p 316.

5 "Istoriya vtoroy mirovoy...," Vol 10, p 320.

6 "Operatsii Sovetskikh Vooruzhennykh...," Vol IV, p 316.

7 "Berlinskaya operatsiya 1945 goda," p 100.

8 "Istoriya vtoroy mirovoy...," Vol 10, p 320.

9 "Sovetskaya artilleriya v Velikoy...," p 709.

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## Engineer Troops in the Berlin Operation

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[Article by Mar Engr Trps S. Kh. Aganov]

[Text] In the Berlin Operation an important role was assigned to the engineer troops which during its preparatory period should establish good conditions for the regrouping and deployment of the troops of the fronts in the initial areas and in the course of the offensive, ensure the successful breaking through of the strongly fortified enemy defenses along the lines of the Oder and Neisse Rivers as well as the offensive in depth. In the concluding stage of the operation they were to participate in the storming of the capital of Nazi Germany, Berlin. For carrying out these missions, 8 assault combat engineer brigades, 4 pontoon-bridge brigades, 6 pontoon-bridge regiments, a combat engineer brigade, 8 motorized engineer brigades, 24 army combat engineer brigades of the all-arms armies, 283 separate divisional, corps and RVGK [Reserve of the Supreme High Command] combat engineer and pontoon-bridge battalions, 2 headquarters of RVGK defensive construction, a front headquarters of defensive construction and 22 military-construction detachments were assigned.<sup>1</sup>

The units and subunits of the engineer troops were incorporated in all the elements of the battle formations of the formations and the operational configuration of the fronts and armies and were decisively massed on the main sectors. Thus, out of the 485 different-purpose engineer battalions, including those part of brigades, 360 were concentrated on the sectors of the main thrusts of the fronts.<sup>2</sup> As a result of this, in the operation they succeeded in achieving the highest densities of engineer troops on the breakthrough sectors during the entire war. For example, on the Second Belorussian Front there were 20-22 engineer and pontoon companies per kilometer.<sup>3</sup> Regardless of the smaller effective strength in comparison with the other fronts, this front received from Hq SHC the largest number of engineer resources. This was explained by the fact that its troops, before breaking through the enemy defenses, had to cross two channels of the Oder (the Ost Oder and West Oder) each up to 250 m wide and cross the interfluve which was 2.5-4 km wide.

The engineer troops were assigned to the armies considering the missions entrusted to them, the nature of enemy defenses and the terrain conditions.

For the regrouping, the engineer troops prepared two or three routes for each army. The use of a comparatively limited number of routes was determined by a desire to reduce the amount of reconstruction work.

The engineer units assigned for building and maintaining the routes were responsible for their reconnaissance and building up, they supported the movement of the columns across difficult areas of terrain, they equipped and maintained crossings over the water barriers and inspected the halt and troop concentration areas for mining. Just the engineer troops of the First Ukrainian Front built some 120 km of new roads, repaired 230 km of existing ones, laid 450 km of column tracks, built 136 bridges with a total length of up to 3,000 linear m and rebuilt and reinforced 178 bridges for a tank load.<sup>4</sup>

In organizing the initial areas for the offensive, the engineer troops of the First Belorussian Front encountered the greatest difficulties as the main forces of this front were deployed on the comparatively shallow Kustrin bridgehead. Under these conditions, in addition to an additional increase in the capacity of the system of trenches and communications trenches and the greater number of artillery positions and command posts, the most important mission of the engineer troops was to establish a system of crossings and routes capable of bringing the 1st and 2d Guards Tank Armies of the front to the bridgehead and ensure their organized commitment to battle on the first day of the operation. By the start of the offensive, the forces of 13 pontoon-bridge battalions, 27 combat engineer battalions and 6 military construction detachments had built across the Oder and were maintaining 25 bridges and 40 ferry crossings with a capacity from 3 to 60 tons. Some 25 routes had been built on the bridgeheads.<sup>5</sup>

The engineer organization of the bridgeheads as the jump-off areas for the offensive started virtually immediately after their capture. For deploying the attack grouping of the front, here they dug 636 km of trenches and communications trenches (up to 7 km per kilometer of front), and 9,116 positions were built for infantry weapons and 4,500 artillery positions.<sup>6</sup>

During the period of preparing for the operation, in the defensive areas of the 21st and 59th Armies of the First Ukrainian Front, the engineer troops had established strong defensive lines with a developed system of mixed minefields. All in all, over 179,000 antitank mines and 323,000 antipersonnel mines, 5,600 different land mines had been set out by the combat engineers on the defensive lines of these field forces and some 69 bridges had been prepared for demolition.<sup>7</sup>

For the engineer support of the breaking through of the defenses, a significant amount of engineer troops was employed. Just on the First Belorussian Front the carrying out of this mission involved 68 engineer battalions and 2 regiments. Of this number, 32 engineer battalions operated as part of the assault groupings, while the moving up of the battle formations of the formations was supported by 35 engineer battalions and a regiment of minesweeping tanks as mineclearing groups and infantry and tank support groups. Some 10 engineer battalions fought as part of the engineer-reconnaissance groups.<sup>8</sup>

The troops of the First Ukrainian Front had to cross the first, strongest enemy defensive area immediately after crossing the Neisse, and the third after crossing the Spree. Moreover, by a decision of the front's commander, the tank armies were to be used for completing the breakthrough of the enemy defenses on the Neisse and Spree. Such conditions forced the engineer and pontoon-bridge units to erect permanent and floating bridges at the pace of the advance. For the non-stop advance to the western bank of the Neisse by the main assault grouping of the front in an area some 27 km wide by the middle of the first day of the operation, 43 assault bridges, 45 floating and permanent bridges capable of carrying a load up to 60 tons had been built and erected, 15 tank fords had been equipped and 10 points for ferry crossings and 42 assault crossing points had been organized.<sup>9</sup>

The tank armies of the First Ukrainian Front crossed the Spree by fording and over 60-ton floating bridges erected by the forces of the front pontoon-bridge

battalions which had been assigned to them. Subsequently the bridges were utilized by the main forces of the all-arms armies.

A particular feature in the engineer support for the crossing of the water barriers in the zone of the Second Belorussian Front was the successive creation of systems of crossings over the two arms of the Oder. The success of the crossing was aided by the decisive maneuvering of the crossing facilities. Thus, on 21 April, due to the planned moving up of the troops of the 65th Army, pontoon bridge units were shifted to its zone from the sectors of the 70th and 49th Armies, and on 22 April, when the troops of the 70th Army had begun to successfully cross the western arm of the Oder, pontoon units were moved up to its area from the front's reserve.

As a total, by 25 April, the engineer troops of the front in the area of the crossing of the Oder by the assault grouping had established: 9 ferry crossings and 7 bridge crossings over the West Oder, 12 ferry crossings and 6 bridge crossings over the Ost Oder.<sup>11</sup>

A large amount of road reconstruction was carried out by the engineer troops supporting the passage of the troops across the interfluve. The problem was that in retreating behind the Ost Oder, the enemy had not only blown up all the bridges and levees, but having also opened a large portion of the locks, had flooded the floodplain of the river from Schwedt to Stettin. For this reason, the engineer troops had to lay treadway roads across it, repair the levees and haul across the flooded area the crossing equipment for the West Oder.

In fighting in the operational depth as part of the forward detachments of the 3d and 4th Guards Tank Armies of the First Ukrainian Front, each route was traveled by at least a company of combat engineers on tanks and motorcycles. One platoon usually reconnoitered the route in the aim of discovering enemy obstacles. Two platoons, using explosives and tanks, cleared away rubble and barricades on the roads and organized bypasses around destroyed bridges. The engineer units fighting as part of the main forces of the tank field forces, on the routes of their advance checked the quality of clearing work carried out, they improved the bypasses and supported the crossing of the troops over impassable areas of the routes.

For engineer support of combat operations directly in Berlin, the 3d and 4th Guards Tank Armies were reinforced, respectively, by the 16th and 22d Assault Combat Engineer Brigades.

In the final stage of the operation, in the activities of the engineer troops, an important place was assumed by supporting the destruction of encircled enemy groupings. Thus, in the course of the struggle against the Frankfurt-Gruben grouping which was endeavoring at any price to break out of the ring and make its way to the west, the troops took an active part in building defensive lines in the area of the 13th Army on the sector of the enemy thrust. For laying mixed minefields and other obstacles on the routes of the enemy units which had broken through, mobile obstacle construction detachments from the 13th, 28th and 3d Guards Armies were employed as well as the 53d, 40th and 36th Combat Engineer Brigades. As a total during the period of the destruction of this Nazi group, the combat engineers set out 3,648 antitank mines and 13,249 antipersonnel mines and created 12.5 linear km of tree barriers.<sup>12</sup>

The engineer troops were widely employed also during the period of the storming of Berlin. Suffice it to say that around one-third of the effective strength of the assault detachments and groups was comprised of combat engineers. An assault grouping included up to a squad of combat engineers and two-three flame-throwers from the flamethrower subunits of the assault combat engineer brigades while an assault detachments included up to a combat engineer company and one or two flamethrower squads. The combat engineer subunits were equipped with concentrated explosive charges weighing up to 10 km (10-15 charges per combat engineer platoon), shaped charges and smokescreen equipment. In a number of instances captured enemy bazookas were employed. Just on the First Belorussian Front there were 84 engineer (combat engineer) companies and a flamethrower tank regiment fighting as part of the assault groups.<sup>13</sup>

In order to conceive of the scale of combat activities of the engineer troops in the battles for Berlin, one might merely point out that in the course of storming the city, 1,500 apertures were built in walls and roofs of buildings; 159 strongpoints built in massive buildings were blown up along with their garrison; around 1,000 passages were cut in barricades on city streets.<sup>14</sup> For thwarting the enemy's maneuvers through underground lines of communications, the combat engineers carried out 47 demolitions of subway ceilings.<sup>15</sup> Along with this, in the course of the storming of Berlin, the combat engineers and pontoon-bridge troops from the First Belorussian Front captured and cleared the mines on 47 bridges, they erected 15 ferry crossings and 6 pontoon bridges and built and rebuilt 35 bridges on solid supports. The engineer units of the First Ukrainian Front built 34 crossings just across the Teltow Canal, including 18 floating bridges and 12 bridges on fixed supports.<sup>16</sup>

With the ending of combat, the engineer troops began clearing work in Berlin. In carrying out this difficult mission, they cleared mines out of over 30,000 various buildings, 300 industrial enterprises and 336 major road structures. Here they removed and deactivated 11,000 mines, 4,000 bombs and over 600,000 artillery shells.<sup>17</sup> The 1st Guards Motorized Engineer Brigade carefully inspected for mines the building of the former military engineer school in Karlshorst, where the signing of the act of unconditional surrender by the Wehrmacht was held.

For outstanding combat accomplishments in the operation, the most distinguished engineer units and formations received orders or the name of Berlin. Thousands of men from the engineer troops were given orders and medals while 50 particularly distinguished ones received the title of Hero of the Soviet Union. Among them were the chiefs of the engineer troops of the First Belorussian Front, Gen A. I. Proshlyakov and the First Ukrainian Front, Gen I. P. Galitskiy. All the personnel from the engineer units and formations which had participated in the storming of the capital of Nazi Germany received the medal "For the Taking of Berlin."

#### FOOTNOTES

<sup>1</sup> "Operatsii Sovetskikh Vooruzhennykh Sil v Velikoy Otechestvennoy voynie 1941-1945" [Operations of the Soviet Armed Forces in the Great Patriotic War of 1941-1945], Moscow, Voenizdat, Vol IV, 1959, pp 323-324.

<sup>2</sup> "Posledniy shturm" [The Last Storming], Moscow, Voyenizdat, 1975, p 85.

<sup>3</sup> "Inzhenernyye voyska v boyakh za Sovetskuyu Rodinu" [Engineer Troops in the Battles for the Soviet Motherland], Moscow, Voyenizdat, 1970, p 312.

<sup>4</sup> "Inzhenernyye voyska Sovetskoy Armii v vazhneystvikh operatsiyakh Velikoy Otechestvennoy voyny" [Engineer Troops of the Soviet Army in the Major Operations of the Great Patriotic War], Moscow, Voyenizdat, 1958, p 286.

<sup>5</sup> "Inzhenernyy voyska v boyakh....," p 313; "Berlinskaya operatsiya 1945 goda" [The Berlin Operation of 1945], Moscow, Voyenizdat, 1950, pp 122, 124.

<sup>6</sup> "Posledniy shturm," p 89.

<sup>7</sup> TsAMO SSSR [Central Archives of the USSR Ministry of Defense], folio 69, inv. 12111, file 3184, sheet 241.

<sup>8</sup> Ibid., inv. 383809, file 2, sheet 135.

<sup>9</sup> Ibid., folio 236, inv. 2698, file 609, sheet 63.

<sup>10</sup> [Not in text]

<sup>11</sup> "Berlinskaya operatsiya 1945 goda," p 377.

<sup>12</sup> TsAMO, folio 69, inv. 12111, file 3197, sheet 105.

<sup>13</sup> Ibid., inv. 383809, file 2, sheet 221.

<sup>14</sup> Ibid., sheet 223.

<sup>15</sup> Ibid., sheet 227.

<sup>16</sup> Ibid., inv. 272735, file 76, sheet 83.

<sup>17</sup> "Berlinskaya operatsiya 1945 goda," p 465.

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#### Signal Troops in the Berlin Operation

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[Article by Col Gen N. G. Popov, State Prize winner]

[Text] By the start of the Berlin Operation, the signal troops had enormous experience in ensuring troop command and control. However, a whole series of questions related to the organization of communications had to be resolved under unusual and complicated conditions. It was necessary to ensure troop command and control not only in breaking through the deeply echeloned and previously

prepared enemy defenses with the crossing of water obstacles but also in the capturing of heavily fortified large cities, particularly Berlin.

The plans of the front commanders were used as the basis in the planning of communications. Line telecommunications in the fronts was laid to the headquarters of each army. For increasing the reliability of its operation, provision was made for at least three communications channels, including two telegraph and one telephone (high frequency). In order to provide such communications, in the area of each front, we had to build or repair the main front artery with a capacity of 8-12 wires, one or two auxiliary arteries with a capacity of 6-8 wires, two-six frontal lateral lines with 4-8 wires each and communications links for the armies.<sup>1</sup> Contact with the General Staff was maintained by the headquarters of the fronts over two telegraph channels and at least three separate links. The latter were organized using special-purpose communications centers (USON). The armies, as a rule, built a line telecommunications artery and several links. The field formations maintained contact with subordinate corps over a single telegraph channel (ST-35) and one-three telephone channels. Contact of the corps with the divisions and below as well as with the crossings was provided basically by telephone.

In the crossing of major water obstacles, for providing line telecommunications with the troops fighting on the opposite bank of the river, underwater cables were laid and overhead cable crossings were built by express methods and for organizing these they employed wooden masts and the surviving supports of high-voltage power transmission lines.

The basic efforts of radio communications were aimed at ensuring command and control of the tank armies, the tank and mechanized corps as well as the all-arms armies fighting on the sectors of the main thrust of the fronts. For ensuring radio contact of the command and observation posts of the fronts, special mobile radio groups were organized. They included two-five medium-power radios, a radio with equipment providing radio printing telegraphy (as a rule, the Karbid) and a RUK receiver. The fronts maintained radio contact with the General Staff by printing telegraphy over a radio link (a Baudot radio) and morse contact over the radio net. The latter, as a rule, provided radio communication between the fronts. All the armies also had direct radio contact with the General Staff over the morse radio net.

For contact with subordinate headquarters, radio nets were established for the commanders of the fronts and these included their personal radios as well as one or two radio links for morse traffic with the armies fighting on the sectors of the main thrust. Radio nets of low-power radios were also employed for contact with the armies and individual corps. Thus, radio communications with the subordinate headquarters was provided over at least two or three channels.<sup>2</sup>

Great attention was paid to radio communications for cooperation and this was organized and supported both over special nets as well as by the method of tapping into the radio net of the required field force or formation. Liaison communications by radio between the all-arms and tank armies (separate corps) and the aviation was also provided by the air representatives who with their own means of communications were located at the command posts of the appropriate field forces and formations. Forward radio centers were set up at the

observation posts of the front artillery commanders and these were entrusted with the mission of providing radio contact with the troops fighting on the main sector. The commanders of the armored and mechanized troops of the fronts, in the event of necessity, could tap any radio net of the tank armies, the tank and mechanized corps.

In organizing radio communications, in comparison with the previously conducted operations, there was a number of particular features. On the First Ukrainian Front (signals chief, Lt Gen Sig Trps I. T. Bulychev), for example, all the nets and links of the front's headquarters (with the exception of the liaison net) each had several link call signs, any of which could be used in work. For contact with the headquarters of the mobile formations when they were a significant distance away from the main forces of the fronts, day and night frequencies were introduced. The radio nets which had a large number of radios were broken up. In the aim of avoiding errors in the exchanging of radio data in the course of the offensive, the times for the changing of the authentication signals and tablet keys were increased. Certain measures aimed at increasing the stability and capacity of radio communications, reducing reciprocal interference of the radios at the communications centers and strict observance of the rules for covert troop command were carried out in the course of the operation. Among these one must put: duplex operation both in the nets and links employing the link call signs; distribution of frequencies by the "cluster" principle whereby the transmitter frequencies were grouped in one part of the band and the receivers in another; providing communications with each army over two main channels using the STsR-399 and Sever radios operating at frequencies below the 100 fixed frequency and so forth.

We should also note the ensuring of all types of communications in the storming of Berlin. Line telecommunications in the armies, as a rule, was organized by artery and links.<sup>3</sup> In a majority of the field forces this was provided from two command posts. Thus, the headquarters of the 8th Guards Army for contact with the corps headquarters had two channels, a telephone and a telegraph ST-35, while the communications center of the operations group had two telephone channels (over double-wire lines laid along different links). The army communications artery of five wires was built down to the communications center of the operations group. Thus, contact with each corps was maintained by at least four channels of line telecommunications. Communications between adjacent armies was established over cable or overhead cable lines and provided one telegraph channel.

Line telecommunications in the rifle corps was organized, as a rule, by links from the command and observation posts. Here a communications system was established which made it possible for the corps commander and headquarters to maintain contact with the division headquarters over at least two telephone channels and one telegraph channel.<sup>4</sup> This was achieved as a consequence of shortening the distance between the command posts and the relatively slow rate of advance in the city whereby the signal troops were able to rebuild the municipal overhead telephone lines and use them in the interests of ensuring command and control over the formations and units of a corps.

The role of the communications centers set up at observation posts increased sharply. The constant desire of the corps commanders to maintain direct contact

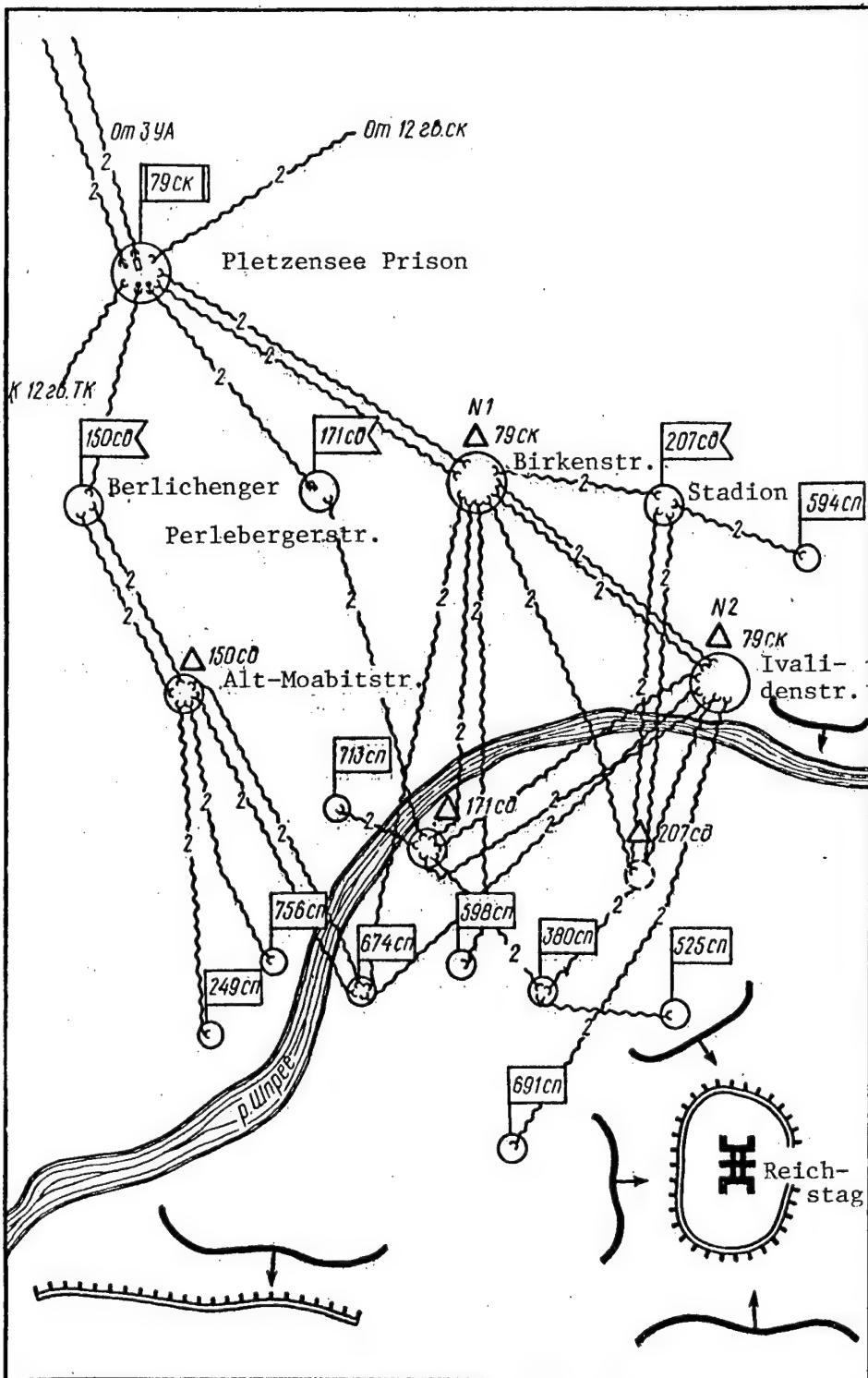


Diagram of Line Telecommunications of the LXXIX Rifle Corps  
in the Storming of the Reichstag

from their observation posts not only with the divisions but also with the regiments fighting on the sector of the main thrust, particularly in capturing important municipal objectives, necessitated an increase in the capacity of the communications centers of the observation posts. This can be shown most visibly from the example of organizing the communications of the LXXIX Rifle Corps (see the diagram) in the storming of the Reichstag. For ensuring control over the enveloping operations of the formations and units of the corps, two observation posts were established. The first observation posts had two telephone lines for contacting the corps command post and two for contacting the second observation post. The corp command post maintained contact with the command posts of the divisions over two channels (telephone and telegraph). One double-wire telegraph line was laid from both corp observation posts to the observation posts of the divisions and two each were laid to the observation post of the 171st Rifle Division. In addition, the corps observation posts had direct telephone contact with the 674th and 380th Rifle Regiments which were storming the Reichstag. Such a system of line telecommunications in the corps ensured the establishing of a large number of bypass routes while the presence of direct contact with the regiments directly involved in the storming of the Reichstag made it possible for its commander to directly influence the course of combat.

It was particularly difficult to lay cable lines in Berlin, as the fires and accompanying collapses frequently knocked them out. Yet the fire of enemy snipers created even greater difficulties in setting up and servicing the cable lines in the city by the signal troops. For this reason, in order to avoid significant losses of personnel, in a majority of the line units, as a rule, two men worked on the line and one guarded them. In addition, reconnaissance of the routes was organized over which the communications lines was to be laid.

In the course of the battles for Berlin, the most effective methods of laying wire communications lines were employed. For example, lines were successfully laid through communicating basements, subway tunnels and underground communication passageways. This method provided dependable operation of the communications lines and led to a sharp reduction in casualties. The laying of a cable through holes in the walls of buildings became widespread. Where communications lines ran along streets (and this was most frequently the case) the wires were firmly attached to the building foundations or were laid in the gutters along the sides of the streets. Cable lines were often laid along the conduits of railroad and streetcar tracks. Cable was suspended only at points of crossing over streets, and, as a rule, in the army--corps and front--army levels where the cable could be damaged by intensive traffic of various types of transport.

Stable operation of line telecommunications was provided by establishing bypass routes as well as by the presence on each communications link from the army to the corps of at least two telephone channels. The correct placement of checkpoints was of great importance for maintaining the dependable operation of the cable communications lines and these, as a rule, were set up in each block at points where the lines crossed the street. These were positioned in such a manner that it was possible to view the street along which the served line ran. Permanent communications lines were also widely used. Experience showed that the banks of canals, parks, gardens, boulevards and railroads were the most convenient for building them. For example, the artery of the 5th Attack Army was brought almost up to the Reichstag from the Silesian Station. The signal

troops of the 8th Guards Army built a permanent line along the bank of the Teltow Canal.<sup>5</sup>

In establishing the communications centers and the monitoring telephone exchanges, great attention was paid to ensuring their security. As a rule, these were located in basements or semibasement rooms of buildings and sometimes in specially equipped dugouts. Here they chose those structures which had strong walls, were protected by other houses from the directions of the most probable enemy fire and had entrances and windows on the opposite side.

In the course of the battles for Berlin, radio communications was widely employed to ensure steady troop command and this was organized by radio nets and links. However, definite difficulties arose in the use of radio and these were related chiefly to the reduced operating range of the radios due to the absorption of electromagnetic energy by the stone and reinforced concrete city structures, by metal structures as well as heavy interference. This forced the signal troops to seek out those methods and procedures for organizing radio communications which would ensure dependable operation of the radios. For this purpose, they resorted to selecting the best places for setting up the radios (the upper stories and attics of buildings, courtyards, squares, boulevards, parks, gardens and so forth), to employing improved-performance antennas, moving them to the roofs of buildings, to using the long-range portion of the radio band and so forth. The experience of organizing radio communications in the storming of Berlin showed that operating according to the radio net principle in a large city became substantially more difficult and, in a number of instances, was completely impossible due to the significant interference to reception. For this reason if a sufficient number of radios was available, communications was provided by radio links.

The particular features of the fighting in Berlin substantially influenced the use of mobile means of communications. Rubble and barricades on the street, the arising fires, the destroyed bridges, continuous traffic of diverse equipment and transport and ambushes which the enemy organized--all of this impeded their use. Correspondence was delivered to the city limits basically at night. This required careful reconnaissance and study of the routes. As a rule, two routes were chosen for one sector. The points for collecting the reports were located on the main troop travel arteries and close to command posts considering the security of the access routes. Liaison aircraft usually landed at preliminarily reconnoitered racetracks, stadiums and sports fields and in a number of instances on broad avenues or streets.

In conclusion, it must be pointed out that during the Berlin Operation the signal troops of all three fronts had to operate under an exceptionally difficult situation, however they significantly carried out the tasks confronting them. They provided uninterrupted communications, dependable troop command and control and thereby made a worthy contribution to completing the defeat of Naziism in its own lair. For high military skill, courage and mass heroism shown in the course of the operation, many signals units received orders, were given the title of guards or received the designator of Berlin.

The experience gained by the signal troops in the Berlin Operation, particularly the practice of organizing and ensuring communications in fighting in a large

city, merit the closest attention and study, as many of its aspects have not lost their importance under present-day conditions.

#### FOOTNOTES

<sup>1</sup> TsAMO SSSR [Central Archives of the USSR Ministry of Defense], folio 233, inv. 2373, file 280, sheet 14.

<sup>2</sup> Ibid., folio 71, inv. 12169, file 133, sheets 27-28.

<sup>3</sup> Ibid., file 790, sheets 140-149.

<sup>4</sup> Ibid., inv. 12191, file 105, sheets 1-3.

<sup>5</sup> See: "Istoriya razvitiya voysk svyazi" [History of the Development of the Signal Troops], Moscow, Voyenizdat, 1981, p 251.

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#### Logistic Support of the 2d Guards Tank Army in the Berlin Operation

Moscow VOYENNO-ISTORICHESKIY ZHURNAL in Russian No 4, Apr 85 (signed to press  
25 Mar 85) pp 47-52

[Article by Candidate of Technical Sciences, Docent, Col (Ret) V. D. Zelenskiy]

[Text] On the eve of the Berlin Operation, the 2d Guards Tank Army (commander, Col Gen Tank Trps S. I. Bogdanov)<sup>1</sup> was put into the reserve of the First Belorussian Front and by the morning of 20 March 1945, had been concentrated in the forests to the southwest and northwest of Soldin. Here the army's troops put themselves in order and received additional personnel, weapons and equipment.<sup>2</sup> The rear services of the army were given the mission by the military council of stockpiling all types of materiel and bringing their levels up to amounts meeting the demand of the troops in the forthcoming operation as well as planning logistical support for the formations.

In beginning to plan for the logistical support of the troops, the chief of the rear services Maj Gen P. S. Antonov and his staff considered the particular features of the given operation. In the first place, the army's combat operations were planned to a shallower depth in comparison with the preceding operations. Secondly, for breaking through the enemy defenses the commander of the front, MSU G. K. Zhukov, planned to use the tank armies along with the all-arms ones. Thirdly, in the course of the battle for Berlin, the troops had to conduct street battles which involved particular intensity and broad actions of the assault groups.

On 20 March, the rear services of the army (94 PAB [forward army base] with all dumps) had been deployed 50-60 km from the troop concentration area in the region of Friedeberg, Landsberg, Muckenburg. The remaining rear units and facilities were located close to this area.<sup>3</sup>

In considering the shallow depth of the operation, the decision was taken not to move the dumps with the basic material supplies in the course of combat and for bringing a portion of these supplies closer to the advancing troops, mobile dumps, departments and road patrols were to be established and these would keep the material supplies directly "on wheels." For this purpose army motor transport units and subunits were assigned to the dumps.

By the start of the operation, the headquarters and first echelon of the army rear services had been concentrated in the area of Neimuhl, approximately 20-25 km from the troops, where, without setting up, they remained ready to immediately move up behind the combat units. In the course of the operation, the first echelon of the army rear services successively moved up behind the advancing units. The headquarters of the PAB and a separate service company as well as all the dumps (with the exception of the 3116th paas [field army artillery dump] and the 2662d pas [army field dump] for fuels and lubricants), the army repair shops, the headquarters of the 76th avp [motor vehicle regiment] and the 202d orvb [separate repair-reconstruction battalion] did not change their positions up to the end of the operation.

Logistical support for the troops was carried out according to the plan of the army rear staff by the appropriate services.

Ammunition supply. For improving the delivery of ammunition to the troops, the 285th avb [motor vehicle battalion] which had a total of 110 motor vehicles was assigned to the army artillery supply chief Col S. N. Fedyayev. This transport was used to move the 3116th paas which was given the mission of delivering ammunition to the corps in the course of the operation. The 1144th Army Artillery Dump remained in place until the end of combat.

By the start of the operation the army's units and formations were fully supplied with all types of ammunition in accord with the supply plan. Thus, on 15 April, the army troops and dumps had: 2.4 units of fire of rifle, pistol and DShK [large-caliber machine gun] cartridges, 3.7 units of fire of cartridges for the antitank rifles, 2.8 units of fire of 82-mm and 120-mm mortar shells, from 2.5 to 3.0 units of fire of rounds for the 37-mm, 57-mm, 76-mm and 100-mm cannons, 3.6 units of fire of rounds for the 85-mm tank cannons and 5.0 units of fire for the 122-mm cannons.<sup>4</sup>

With the start of combat operations, a forward section was sent out from the 1444th Artillery Dump in Neimuhl. This reduced the ammunition transport run by 80 km and accelerated the turn-around of the transport.

The decision of the army rear services chief to draw upon the motor transport of the corps exchange points was a fullest measure. Each of these points had from 12 to 22 motor vehicles and would be employed to haul ammunition from the forward section of the army dump to the units. This was a reserve of ammunition which at any minute could be supplied to the units. Such a system of hauling ammunition had not been employed previously in the army. Its positive aspect was that because of it the supplies of ammunition could be scattered about (this was very important under the conditions of active enemy aviation) and at the same time bring them closer to the troops.

In contrast to the previous operations, where the tanks and SAU [self-propelled artillery mount] were permitted to have only the regulation unit of fire, in the Berlin Operation the tanks armed with the 85-mm cannon could lay in an additional 10 rounds each and the SAU were permitted 5. This increased the fire capabilities of the subunits in combat and somewhat facilitated the work of the mobile artillery dump.<sup>5</sup>

Regardless of the great consumption of all types of ammunition (this exceeded 150 tons a day), the troops in the Berlin Operation were continuously supplied with shells and cartridges.<sup>6</sup> With motor transport available, the army artillery supply chief could quickly send the necessary ammunition as well as weapons directly to the units and formations.

The average daily consumption of ammunition in the operation was: 0.03-0.04 units of fire for the rifle and machine gun cartridges and the 82-mm mortar shells and 0.07-0.14 units of fire for the 120-mm mortar shells and artillery rounds of varying caliber. As a total during the operation the army consumed 2,715 tons of ammunition.<sup>7</sup> Here the tank and artillery units, in contrast to other operations, consumed much more fragmentation ammunition (81.1 percent). The consumption of armor-piercing and composite shells was, respectively, just 17.8 and 1.1 percent of the total consumption. This was explained by the fact that in the course of the operation, particularly in the street battles in Berlin, the tank and artillery troops had to fight mainly against enemy artillery antitank weapons, particularly the close-combat hand-held enemy weapons (bazookas) as well as against personnel in strongpoints. Regardless of the fact that the depth of advance for the army in the Berlin Operation was 100-130 km, ammunition consumption surpassed that of the Vistula-Oder Operation by 3-4-fold and this operation was carried out to a depth of over 650 km.<sup>8</sup>

The troops were supplied with fuel and lubricants from two field army dumps. Over the entire operation the dumps were not moved. For bringing the fuel and lubricant supplies closer to the operational units, forward sections were assigned from the dumps. Thus, dump 1095 on 23 April sent out a section to Soldin, while dump 2662 established a mobile forward section which kept on wheels (241 vehicles) 0.5 fuelings of gasoline and diesel fuel and 490 tons of various lubricants. In addition, on 20 vehicles a reserve supply of fuel and lubricants was established and this was at the disposal of the army rear services chief. The mobile forward section of dump 2662 moved up behind the troops and set up in the area of the army rear services headquarters.

Fuel was delivered to the army dumps from the front dumps by special trains and the army vehicle transport. Thus, dump 2662 received 10 special trains with lubricants (with 300-400 tons in each) and a total of 2,720 tons of gasoline and 1,083 tons of diesel fuel. Motor transport delivered to the dump some 700 tons of various grades of fuel and oil. Around 500 tons of fuel and oils were delivered to the forward section of dump 1095 by the army's own transport.

Over the period of the operation, the army's troops consumed 157 tons of KB-70 gasoline (4 fuel loads), 2,149 tons of gasoline (4.8 fuel loads) and 800 tons of diesel fuel (4.1 fuel loads).<sup>9</sup> This somewhat exceeded the consumption of fuel by the army in the Vistula-Oder Operation. By the end of combat the army had 4 fuel loads of fuel and around 2 loads of oil.<sup>10</sup>

Food was supplied to the army troops from supplies established at the field army dump and the dumps of the formations and units as well as from supplies existing on the front and procurement from local resources. The supply depot assigned a mobile support detachment. Its 40 motor vehicles could transport one daily ration of food (81.5 tons).<sup>11</sup> In order to bring the food supplies closer to the troops, from 15 April, two forward sections of the army depot were located closer to the troops, in Inowroclaw and Neimuhl. In the course of the operation, the troops did not experience any shortage of food and fodder. For a majority of the types of food, the supply of the army by the end of the operation had remained approximately on the same level as at the outset and for some had even increased.

Technical support. The technical support services carried out a large amount of work to rebuild and return the combat equipment to service.

The tank engineer service concentrated all of the damaged and lagging tanks and SAU in the Soldin area and organized their repair using the army facilities. The technical support companies of the regiments and brigades carried out routine repairs while the mobile tank repair bases (ptrb) repaired the hulls and the 75th Tank Rapair Battalion carried out medium and even major overhauls on the vehicles. Up to 15 April, the repairmen had returned 146 vehicles to service, including 94 after a medium overhaul and 29 after a major overhaul.<sup>12</sup>

The army repair and salvage units were only 90 percent up to strength. For this reason the front reinforced the army with the 152d ptrb. The deputy army commander for technical affairs and chief of the headquarters for armored supply and repairs, Engr-Maj Gen Tank Serv N. P. Yukin, assigned it to the I Mechanized Corps. With the start of the operation the repair and salvage facilities were used on a centralized basis. The 75th otrb [separate tank repair battalion] sent out subunits for operating in the corps zones of advance. Damaged vehicles were evacuated from the battlefield to shelters by tanks and to the SPAM [damaged vehicle collecting point] of the regiments, brigades and corps by tractors and combat vehicles with damaged weapons. The non-T/O composite army salvage detachment collected the damaged armor equipment on the main routes of advance of the corps and from here it was towed by captured tactors to the army and front SPAM.

In the course of the Berlin Operation, some 1,284 tanks and SAU broke down in the army and this was 192 percent of the initial listed force. On individual days, for example, in breaking through defensive lines and particularly in the street battles, the failure of combat vehicles was significantly higher than the average daily. The correct use of the repair units and subunits, the skillful management of them by the chief of the repair section of the Headquarters of Armored Supply and Repairs, Engr-Lt Col V. Chulkov and the unstinting labor of the repair personnel ensured the rapid rebuilding of the damaged vehicles. Over the operation they repaired 930 tanks and SAU.<sup>14</sup>

A large amount of work was done by the artillery supply service. On the eve of the operation, the army was significantly below strength (15-30 percent and more) in terms of individual firearms, machine guns, antitank rifles, 57-mm and 76-mm weapons as well as various instruments. For putting the weapons and instruments in order, the artillery supply chief called upon personnel from the

crews, the weapons and rifle shops of the subunits as well as the repair shops of the corps.

In the preparations for and in the course of the operation, the 27th AARM [army artillery repair shop] was located at the field army artillery dump 1144. It carried out not only medium repairs but also major overhauls of weapons and instruments evacuated by the troops to the dump. The 344th AARM was moved and set up close to the army headquarters and operated under the direct leadership of the artillery supply chief. The shop performed only medium repairs on weapons which had failed on the battlefield. For repairing weapons directly in the units, both shops sent out the necessary men and equipment. During the period from 1 through 15 April, the shops repaired more than 3,700 units of individual firearms, 475 machine guns and antitank rifles, around 200 mortars and guns, including 100 tank guns, and around 100 different instruments.<sup>15</sup>

Artillery dump 1144 sent out a section consisting of seven men with a motor vehicle to collect Soviet and captured weapons on the battlefield as well as receive malfunctioning weapons from the troops. In the course of the offensive, the section remained with the mobile ammunition dump.

Motor transport service. After the successful conclusion of the Vistula-Oder Operation, the combat and rear units of the army were significantly under strength in terms of vehicles. The army had 5,391 vehicles which was 73.6 percent of the TOE level. However, 1,402 of these required medium repair and major overhauls and 1,802 needed routine repairs. There were just 2,187 motor vehicles in working order and these had seen significant service.<sup>17</sup>

Decisive measures were needed to bring the motor transport fleet of the army to a state of combat readiness. Actually all the motor vehicles in the units underwent careful inspection and repair. The drivers and personnel of the repair subunits were in charge of routine repairs while the corps field repair bases and the 202d Repair-Reconstruction Battalion carried out medium repairs and major overhauls.

During the preparations for the operation, the army repaired all the motor vehicles requiring routine repairs, 792 received medium repairs and 38 underwent a major overhaul.<sup>18</sup> This made it possible to significantly improve the condition of the motor transport, particularly in the army motor transport units.

Medical support. By the start of the operation, a majority of the sick and wounded had been evacuated to the front hospitals and to the rear of the nation, while the recuperated personnel were returned to their units. In the army hospitals there were 495 men, including 441 in the hospital for lightly wounded.<sup>19</sup>

In order to be able to replace the expected losses of orderlies and medical instructors in the subunits and medical stations of the units, upon instructions of the chief of the army medical headquarters, Col Med Serv B. Chebotarev, at the hospital for lightly wounded and the medical battalions of the corps, a reserve was trained from the new reinforcements. Around 250 persons underwent this training. All the medical facilities and units were brought up to strength for personnel and provided with medical supplies for at least 10 days of combat.

The evacuation capabilities of the hospitals were strengthened as the 76th Motor Transport Regiment assigned 12 motor vehicles to each of the surgical hospitals 5213 and 180 and 10 vehicles were assigned to the 178th Ambulance Platoon.<sup>20</sup>

When the army troops reached the jump-off position for the offensive, the 60th, 180th and 5213th hppg [surgical field mobile hospital], the 164th ep [evacuation receiving station], the 84th ormu [separate medical reinforcement company], the 60th seo [medical and epidemiological detachment] and the 178th avsanvz [ambulance platoon] moved forward closer to the troops (Tsarndorf, Radorf). The remaining medical units remained at their former sites. In the course of the operation, the 84th ormu, the 82d odr [separate disinfection company], the 60th seo and the 178th avsanvz set up and moved together with the army rear services headquarters, being directly available of the chief of the medical headquarters.

Due to the slow rate of advance of the troops in the Berlin Operation, the evacuation receiving station and the army hospitals moved every 2-4 days. As a total during the operation the army hospitals received 7,317 sick and wounded. Of these, 585 persons were returned to service, or 8 percent.<sup>21</sup>

In the last stage of the operation there were definite difficulties in evacuating the wounded to the front hospital base (Landsberg), when the evacuation distance rose to 170-200 km. For this reason the load factor for the army hospitals increased significantly at this time.

Road support. The military council put the army road service in charge of supervising motor transport traffic and achieving a savings of motor life and fuel. During the period of preparing for the operation, the 144th Road Construction Battalion built two underground dumps for 600 tons of fuel and lubricants and repaired more than 6,000 linear m of road.<sup>22</sup>

For mineclearing and repairing of destroyed roads, for rebuilding and building crossings over the numerous rivers and canals, for clearing rubble and for organizing a traffic control service, a forward road detachment moved up immediately behind the troops and this included a bridge platoon as well as platoons for traffic control, mineclearing and demolition, a total of 77 men on vehicles. The 27th Traffic Control Section on the routes of advance of the troops and rear columns set up more than 2,000 road signs and indicators.

Thus, a characteristic feature of the rear support for the troops in the 2d Guards Tank Army in the Berlin Operation was the bringing of the army rear service bodies as close as possible to the troops. The troops were basically supplied with necessities by the forces of the rear first echelon which included the first echelon of the PAB as well as the units and facilities of the medical and road services.

Decentralization of the motor transport of the army rear services did and presently does evoke legitimate argument, as it reduces the productivity of army motor transport. But in the Berlin Operation, due to the specific conditions, motor transport decentralization for the army rear services proved effective. Utilizing the attached motor transport for establishing mobile army dumps or their sections and road service, the service chiefs could provide a better organization for the safekeeping, transporting and delivery of ammunition, fuel

and other materiel. As a result, the supply of the troops with all essentials was carried out continuously, without any interruption, in the course of the operation.

#### FOOTNOTES

- <sup>1</sup> The army included the IX and XII Guards Tank Corps, the I Mechanized Corps as well as the TOE and attached formations and units from the different branches of troops. By the start of the operation, the army had 667 tanks and SAU (TsAMO SSSR [Central Archives of the USSR Ministry of Defense], folio 307, inv. 4148, file 333, sheet 56).
- <sup>2</sup> Of the rear units and facilities, the army included: the Headquarters of the 94th Field Army Base (PAB), the 88th Separate Maintenance Company (oro); field army dumps: artillery (1144th and 3116th paas), fuel and lubricants (1095th and 2662d pas), supply (1223d paps), as well as supply depots for the branches of troops and services; army artillery repair shops (27th and 344th aarm); medical units and facilities: the 164th evacuation receiving station (ep), 4 surgical field mobile hospitals and one therapeutic one (5213th, 4312th, 180th and 60th khppg and the 2693d tppg), a hospital for lightly wounded (5285th g1r), an infectious hospital (the 2462d ig), the 84th Separate Medical Reinforcement Company (ormu), the 60th Medical and Epidemiological Detachment (seo), the 82d Separate Disinfection Company (odr), the 178th Ambulance Platoon (avsanvz); the 76th Motor Transport Regiment (avp), the 285th Motor Transport Battalion (avb), the 220th Fuel and Lubricant Delivery Company (rp GSM); the 144th Road Construction Battalion (odsb), the 202d Repair and Reconstruction Battalion (orvb) and the 75th Tank Repair Battalion (otrb); the 549th Field Bakery Plant (pkhz), the 431st Field Bakery (pkhp) and other rear units (TsAMO, folio 307, inv. 4148, file 177, sheets 62-65).
- <sup>3</sup> TsAMO, folio 307, inv. 4148, file 177, sheet 65.
- <sup>4</sup> Ibid., inv. 4161, file 150, sheet 25.
- <sup>5</sup> Ibid., sheet 23.
- <sup>6</sup> Ibid., inv. 4148, file 177, sheet 28.
- <sup>7</sup> Ibid., sheet 86.
- <sup>8</sup> A. I. Radziyevskiy, "Tankovyy udar" [Tank Attack], Moscow, Voenizdat, 1977, p 231.
- <sup>9</sup> Ibid., p 232.
- <sup>10</sup> TsAMO, folio 307, inv. 4148, file 177, sheets 85-86.
- <sup>11</sup> Ibid., sheet 71.

<sup>12</sup> Ibid., inv. 4163, file 85, sheet 12.

<sup>13</sup> [Not in text]

<sup>14</sup> Ibid., sheets 5, 15.

<sup>15</sup> Ibid., inv. 4148, file 177, sheet 69.

<sup>16</sup> [Not in text]

<sup>17</sup> Calculated from data of: ibid., sheets 65-67.

<sup>18</sup> Ibid., sheet 66.

<sup>19</sup> Ibid., sheet 67.

<sup>20</sup> Ibid., sheet 61.

<sup>21</sup> Ibid., sheet 85.

<sup>22</sup> Ibid., sheet 61.

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## MSU KONEV ON BERLIN, PRAGUE OPERATIONS

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25 Mar 85) pp 53-59

[Article under the rubric "Documents and Materials" from a speech by MSU I. S. Konev at a military-scientific conference for higher command personnel of the Central Group of Forces on studying the experience of the Berlin and Prague Operations\*]

[Text] In February 1946, in the Central Group of Forces a conference was held on studying the experience of the Belin and Prague Offensive Operations by the First Ukrainian Front. Participating in its work were the generals and senior officers from the Central Group of Forces, as well as representatives from the General Staff and military academies.

The conference heard reports by generals and officers from the group staff and the chiefs of the branches of troops and services who had participated in this operation. Below we give the abbreviated text of the speech given at the conference by the Commander-in-Chief of the Central Group of Forces, MSU I. S. Konev, who led the troops of the First Ukrainian Front in the Berlin and Prague Operations.

As is known, at the end of January and the beginning of February 1945, a conference was held on Malta for the higher state and military leaders of the United States and Great Britain. In the course of the talks, W. Churchill insisted that the Western Front in Europe extend as far east as possible. In violation of the previously reached agreement on the line for the meeting-up of the Allied troops, he considered the taking of Berlin, Prague and Vienna to be the main goal of the anglo-American armies. Proceeding from these views, the English side proposed a plan for conducting active offensive operations in the aim of anticipating the Soviet Army in reaching Berlin.

The Soviet Armed Forces, in carrying out their Allied and international duty, were endeavoring to complete the defeat of the Nazi beast as quickly as possible in its own lair and accelerate the ending of the war.

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\* TsAMO SSSR [Central Archives of the USSR Ministry of Defense], folio 275, inv. 248352, file 6.

[Text of Konev's speech]

During the first days of April 1945, Mar Zhukov and I were summoned to Headquarters. Several hours after arriving in Moscow, we were summoned to the Kremlin to see Comrade Stalin. The question of the taking of Berlin was discussed.

Comrade Stalin immediately asked Zhukov and me: "Who will take Berlin--the Soviet Army or the Allies?" We replied that undoubtedly Berlin would be taken by the Soviet Army.

As a result of the 1945 winter offensive, the Soviet Army had dealt a serious defeat to the Nazi troops, it had invaded deeply the territory of Germany and Austria and was preparing for the decisive operations to defeat Nazi Germany. The Allies, due to the successes of the winter operations of the Soviet Army, had gone over to an offensive, they had crossed the Rhine and had pushed deeply into Germany. However, the Nazis fought stubbornly on the Eastern Front, taking additional forces from the Western Front and shifting them against the Soviet Army. You all remember the enemy counterstrike designed to create a serious threat to the Soviet Army in the south, in the area of Lake Balaton. Comrade Stalin familiarized us with the situation.

After this, the Supreme Commander-in-Chief asked us when and how Berlin would be taken, that is, he wanted us to describe our plans for this operation. We knew from previous encounters that he always allowed the front commanders to state their views, to show creativity and initiative and in the course of the discussion to arrive at decisions which were correct and corresponded to the situation.

Mar Zhukov was the first to report his plans. The First Belorussian Front had prepared previously for this operation, it possessed the appropriate resources and with its main forces was aimed at Berlin.

Before reporting the plan for the operation of the First Ukrainian Front, I had to briefly describe the situation. The front had just completed the Oppeln Operation which had been rather intense, particularly for the left wing and center of our troops. The main grouping of the front was on the left wing. The 3d Guards Tank Army, as a result of the previous battles, had suffered losses and was being brought up to strength, putting itself and its materiel in order. The Fourth Ukrainian Front, the adjacent formation to the left, had fallen behind and was a burden to our left flank. The enemy grouping on the left flank, in line with the execution of the Oppeln Operation and due to the fact that the Germans, after we had captured Upper Silesia had prepared a counterstrike in the aim of recovering the major industrial base, was rather strong.

My plan came down to the following: to regroup the front's troops and create a grouping in the region of Muskau, Tribel consisting of three all-arms armies (the 3d, 13th and 5th Guards), two tank armies (3d and 4th Guards), two tank corps and seven artillery breakthrough divisions. At the same time an auxiliary thrust was to be made by the 52d Army and the 2d Polish Army. I asked the Supreme Commander-in-Chief to transfer a portion of the front's zone to troops

of the First Belorussian Front. The 21st and 59th Armies were to be spread out with the task of providing a rigid defense so that the Zhadov<sup>1</sup> army could be withdrawn and regrouped to the main sector.

The Supreme Commander-in-Chief agreed with this plan, but voiced the fear that it would take a good deal of time to regroup the forces of the front. Using the freed forces of the Baltic Front, he proposed shifting the 28th and 31st Armies and using them for carrying out this task. I estimated the time, having previous experience in the concentrating of armies during the period of the Silesian Operation, and saw that they would arrive not before 25 April. It was decided that the First Ukrainian Front would start the offensive with the available forces. I said that I would endeavor to take measures and accelerate the time for concentrating the troops. It was decided to set the final date upon my decision, depending upon the course of the regrouping. Then the Supreme Commander-in-Chief gave instructions on the demarcation lines between the fronts. Here let me point out that the demarcation line ran to around 50 km away from Berlin and this provided an opportunity for a subsequent decision depending upon the situation.

This decision was not accidental and it provided an opportunity for the commanders of the First Belorussian and First Ukrainian Fronts, depending upon the situation, to adjust their actions in taking Berlin. As you can see from the results of the operation, this made it possible for the First Ukrainian Front to play a major role in carrying out the missions of taking Berlin. Here also instructions were given for the regrouping of the artillery, tanks, aviation and the additional allocating of tanks for both fronts. All the questions of the plan for the Berlin Operation were settled on the first day of our visit which took approximately 4-5 hours of time.

The Supreme Commander-in-Chief proposed that we work out the plan on maps with the grouping of men and weapons while the chief of the General Staff, Comrade Antonov, was to prepare the Headquarters directives.

On the second day the Supreme Commander examined the grouping and the final axis of the thrust. I should say that the First Ukrainian Front was given the mission of reaching the Elbe River to the south of Berlin. The subsequent axis of the front's thrust was aimed at Leipzig. Here it was agreed that in the event of a change in the situation, provision must be made for the possibility of turning a portion of the forces from the First Ukrainian Front to Berlin. The missions were set for the tank armies of both the First Belorussian and First Ukrainian Fronts.

In deciding the question of the armies, Comrade Stalin named the army commanders by name, for example, where would Zhadov be and the sector of advance for his army, where would Pukhov, Gordov, Rybalko, Lelyushenko and others advance?<sup>2</sup> He knew the names of all the army commanders and the commanders of the individual tank corps. This time the review and approval of the plans for the fronts and the Headquarters directives took up to 3-4 hours. The plans and the directive were approved.

Returning to the front, I issued the order to the army commanders and everyone began energetically to regroup the forces and prepare for the operation.

I should state that the Supreme Commander almost every day was interested in the course of preparations for this operation, he personally called me over the high-frequency telephone and heard my reports.

When around 2400 hours on 16 April I reported that the offensive was successfully underway, Comrade Stalin gave the following instructions: "Things are going slowly for Comrade Zhukov, turn Rybalko and Lelyushenko toward Zelendorf and remember what we agreed upon at Headquarters."

On the Berlin Operation itself. Here comrades have said that this operation is of great interest as the final operation in defeating the German Armed Forces. This is correct. This operation included or encompassed all the known operational forms employed under the conditions of the Patriotic War. Here we have a breakthrough, a crossing [of a water barrier], the development of the breakthrough by mobile formations, coming out in the rear, outflanking, encirclement, the splitting of the enemy front which was carried out in the course of the operation, the maneuvering of troops, as well as the repelling of counterstrikes and counterattacks. Consequently, this operation, as the final one, has all the diverse forms of operational art and for these reasons merits study.

In the Berlin Operation it is possible to find examples of actions of all the branches of troops, the armies of our front and below, that is, the corps, divisions and so forth. In this operation all the branches of troops were given a full opportunity to show creativity. This final operation was a generalization of all the enormous experience which had been acquired by our army and our officer personnel in the previous offensive operations. In studying the Berlin Operation, one can fully understand and assimilate the combat experience of the Soviet Army.

The second important aspect of this operation was the rapidity of combat operations and the high rate of advance. In individual instances the rate fluctuated within the limits of 20-25 km but as a whole it was rather high.

Thirdly, the taking of such a major objective as the enemy capital, the city of Berlin, over a period of 10 days, undoubtedly, was a major accomplishment for our troops, for by this time we had experience in capturing a number of major objectives and great experience in the capturing of Budapest. You all know that Budapest required a very great effort, the expenditure of men and weapons and a protracted and stubborn struggle by our troops. Berlin was taken in 10 days and this can be considered as completely satisfactory work by our troops of both fronts.

Fourthly, the Berlin Operation showed the triumph of our Soviet arms in the full sense of this word. Here we were clearly convinced of the superiority of Soviet military art and the superiority of all types of Soviet weapons and equipment which were better in quality and more powerful and this ensured the defeat of the Nazi troops.

The Berlin Operation showed the excellent qualities of our Soviet Army, its high morale, its steadfastness, political upsurge and the dedication of all the personnel to our Soviet people.

All the personnel of the First Ukrainian Front, in participating in this operation, considered it their honor to break into Berlin and, in competing with the troops of the First Belorussian Front, the men of the First Ukrainian Front considered it their honorable and responsible duty to be the first to break into Berlin. This was a completely natural desire founded upon confidence in their own strength and the high combat qualities of the Soviet Army, its combat experience as well as those enormous efforts which our Soviet people had invested in the cause of defeating the Nazi invaders. Everyone realized that with the taking of Berlin the war would be over.

I would like to add an evaluation of the actions of the branches of troops in the Berlin Operation. First of all the rifle troops. Our infantry in the Berlin Operation demonstrated its tenacity, maneuverability, stubbornness in combat, boldness and courage in carrying out combat missions. Our infantryman spared nothing to defeat the enemy and capture the capital of Germany. It must be pointed out that the conduct of close combat by our infantry was an important task and the experience of this last operation teaches that in this area there is still much to be done to better employ our infantry on the battlefield, particularly in the sense of the configuration of its battle formations. The infantry battle formations were the result of the experience of the Patriotic War. The good battle formations ensured success and corresponded fully to the nature of modern warfare. But they must be improved in the sense that the infantry should not be allowed to cluster up on the battlefield, that control be better and that fire be much better used for support of the infantry.

Our infantry was continuously supplied with better and new models of automatic weapons and was reinforced with artillery and evermore powerful and numerous fire. The infantry must improve upon the experience gained in the utilization of fire during peacetime. This is a most important task for our infantry performs a maneuver and any sort of regrouping and so forth and does this well, while the organization of close combat is a point which requires our attention after the war so that the infantry is improved in this area and always advances with the support of strong fire.

Our artillery in the Patriotic War proved itself to be a powerful type of weapon ensuring success in the offensive operations. It was numerous and qualitatively much better than the enemy artillery. Our artillery chiefs mastered modern experience and skillfully employed and organized artillery operations in the engagements. This is not an easy matter as it requires the art of the artillery chiefs and knowledge on behalf of our all-arms commanders and their staffs in the area of employing the artillery as a powerful branch of troops.

The massing of artillery, the carrying out of combat missions by the artillery on the battlefield, its maneuvering, the control of large masses of artillery and the planning of fire-all of this the artillery troops learned under the conditions of the Patriotic War. This is a most valuable achievement which must be improved upon. Our artillery chiefs and staffs, considering the experience of the Great Patriotic War, should work a great deal so as not to rest on these achievements but move forward and improve the materiel of artillery in the sense of its power, increase the effectiveness of operations against defensive installations and personnel and the power and piercing capacity of our projectiles against enemy equipment and tanks. It is particularly essential to improve the

accuracy of fire in all our artillery systems and then our artillery, in eliminating the existing shortcomings, will keep its place as one of the major branches of troops of the Soviet Army and carry out any mission.

In the hands of a modern army or corps commander, the artillery division or artillery corps is a means which, undoubtedly, can sharply alter the situation in our favor if it is properly employed.

In the Berlin Operation we can see a number of such examples: Kozhukhov's<sup>3</sup> maneuver toward Berlin and his drive to the 3d Guards Tank Army, the maneuver of the 17th Artillery Division to Luckenwalde, the 3d Guards Artillery Division, the 25th Artillery Division and a number of others.

Very indicative is the fact that our all-arms chiefs such as the corps commanders and sometimes the army commanders endeavor to carry out the mission, demanding everything from just the infantry, from their own formations, and are unable to employ such a major force as the artillery division which is at their disposal. Undoubtedly, there were such instances in the Berlin Operation. There have been times when the artillery division was broken up into regiments and separate subunits. When such a powerful artillery hammer with such maneuvering capabilities is in the hands of an army or front commander, this noticeably influences the outcome of combat and as a whole the outcome of the operation.

The tank troops in the Berlin Operation. What conclusions can be drawn on these troops? The operation showed what a powerful weapon our Soviet Army possessed in the form of the tank corps and armies. Look what missions were set in the Berlin Operation for the two tank armies of Comrades Rybalko and Lelyushenko. In essence, they ensured the main success of the First Ukrainian Front in capturing Berlin. In this regard, they hold the first place. What is remarkable here?

Our modern tank field forces and formations are capable of operating independently away from the infantry. This is the first thing.

Secondly, our tank armies were capable by their own forces to break through the defensvie line on the approaches to Berlin with its man-made and natural structures and obstacles. From this it can be concluded that our tank armies had improved both in organizational and qualitative terms and under the corresponding situation were capable themselves of breaking through the field defenses and advance against an enemy which had hurriedly gone over to the defensive or an enemy which did not have a solid positional front, without the corresponding reinforcements.

Thirdly, our tank armies repudiated the unnecessary caution over the question of committing them to the breakthrough. This operation teaches that a tank army should be committed to the breakthrough on the first day of the operation and it must not be feared that the tank army is confronted by such water obstacles as the Spree River, a number of lake defiles and forested areas. It turned out that the tank formations were capable of carrying out the missions under such very difficult conditions as existed in this operation. This is very important. When we previously had committed a tank brigade against a still active defense and did not support and provide it with artillery fire, when the forward edge had not been broken and reconnaissance had not even been properly carried out,

this brigade suffered a defeat and on the basis of this experience we drew the incorrect conclusion and for this reason had an indecisive approach to using such major modern troops as tank armies. We must not consider and take as experience only the start of the war, even 1942. I recommend that we study and live by the experience of the war's end and put this foremost.

Obviously our comrades who are generalizing the experience of our tank armies in the war must make major amendments in the manuals on their operational employment and tactical use, realizing that modern tank armies have enormous capabilities and these capabilities were apparent in the Berlin Operation. Our tank armies showed that they possess great capabilities for attack, maneuver and endurance in carrying out major operational missions in depth. They are capable of independently carrying out missions away from the infantry, destroying approaching reserves, quickly overwhelming the enemy, making powerful flank attacks and, as the Berlin Operation teaches, independently with some support for the flanks split an enemy front.

These are briefly the operational and tactical conclusions which can be drawn from the experience of this operation and partially the Prague one on employing the tank and mechanized troops of our front.

Aviation. In the last operations of 1945, and particularly the Berlin one, we truly began to employ our aviation on the battlefield and make massed attacks against the enemy. We successfully employed the enormous capabilities which our aviation possessed both in quantitative and qualitative terms. Aviation was employed more fully in the last operation, the Berlin one. This was aided by a number of factors: the gained experience, the presence of air supremacy and the high training of the personnel. Also important is the fact that by this time our commanders of the air armies, their staffs as well as the corps and divisional commanders had definite experience. The demand of the massed employment of aviation was observed. The understanding of this was the same both among the all-arms and aviation chiefs. Our all-arms chiefs began to work more fully and more closely with the aviation and learned to give it missions.

The organization of the air formations by the war's end was more convenient and better for the control and massing of modern aviation. Our air chiefs had mastered the maneuvering of aviation on the ground and the ability to materially support large aviation forces. This was a major question and frequently, in having aviation, we were unable to use it fully as we could not quickly relocate it. In the Berlin Operation it was most quickly shifted from the Oppeln to the Berlin sector.

Our pilots began to better understand the content of all-arms combat, the battle formations and the equipment and worked not according to orders but rather proceeding from the situation and instructions upon their own understanding of this situation. For example: Ryazanov<sup>4</sup> was sitting on the roof of a house and directing the aviation operations to repel the attacks of the German 12th Army which was coming to the aid of the surrounded enemy grouping to the southeast of Berlin. These are elements of the new. They show that our air chiefs understood modern combat, their role and place and felt responsibility for the outcome of combat.

It must be pointed out that individual shortcomings which have been mentioned by comrades, for example shortcomings in the area of cooperation, unfortunately did occur. But today I personally have not reminded our aviators of these shortcomings in the Berlin Operation since they did so very much, helped our ground forces and ensured a major combat success.

The problem was that previously, as a rule, aviation was not controlled on the battlefield, it bombed any objectives and the result of its work did not directly tell on troop combat. But recently our aviation has made bombing strikes (and even fighters were involved in this work) ahead of the troops and if it caught some of ours this was because of our lack of organization and poor discipline. For only this reason and not because we did not understand the importance of cooperation. We must speak about the valuable combat experience and that aviation began to make strikes directly ahead of the forward edge of our troops. There were instances when the ground forces on the battlefield were unable to carry out a mission and did not have enough force to carry out the mission of capturing a certain objective. As soon as air operations were organized, the result was at hand.

How can one not but give a positive evaluation of aviation in this operation when it made a series of massed strikes to defeat the enemy grouping to the southeast of Berlin and the German troops began to squirm and even wanted to surrender to the aviators, holding up white flags. This is an indicator of the fact that aviation did its job well. Air operations in the storming of Berlin to destroy the attacking groupings of the enemy 12th Army, the defeat of the enemy on the Gorlitz-Dresden sector and the destruction of the Cottbus grouping--these are all indicators of the outstanding air combat. You can see how diverse were the missions carried out by Soviet aviation in this operation.

Our higher air chiefs must work on the question of using a large mass of modern aircraft, learn to control them, organize cooperation and carry out combat missions in the interests of the ground troops. Those new forms and methods which were put forward in the course of the war should be taken up by our aviators, investigated and boldly employed.

The engineer troops during the Berlin Operation, as in a number of others, carried out a labor-intensive and major task of ensuring the success of the advancing troops. During the Berlin Operation our engineer troops in a very short time moved the tanks and artillery across the Neisse River and subsequently across all obstacles on the way to Berlin.

Our engineer troops and their chiefs have gained great experience. With today's organization the engineer troops are capable of crossing not only comparatively small rivers but also such large water barriers as the Dnieper, Vistula and Oder and brilliantly carry out all missions. The crossing experience is so great that it provides a possibility of concluding that for the Soviet Army equipped with modern gear there are not obstacles which it could not cross.

The construction of bridges was carried out well, we have great experience in building pontoon and piling bridges and the front's combat engineers carried out this question successfully. In addition to this experience we must improve the crossing experience on regulation pontoon equipment and study the question of

the carrying capacity of our pontoon equipment and the possibilities of a major maneuver. The carrying capacity of the crossing equipment which exists in the all-arms armies, particularly in the tank armies, does not meet their needs. These questions must be raised and on the basis of the war's experience we must develop the crossing equipment and have equipment which would be more convenient, easily transported and of greater carrying capacity.

The organization of our engineer troops in the form of combat engineer and pontoon brigades is correct and it fully proved itself in this major operation.

We must train and specialize the engineer troops in effectively mastering all the equipment which exists in the engineer units. We must achieve a high rate of work so that there is no gap between the troop operations and the capabilities which the engineer troops possess for ensuring a high rate of advance. It is essential that the equipment which supports the troop in this sense not be a brake or impediment for them.

On the question of minelaying. Modern warfare has shown what importance minelaying has. But it is not merely a question of setting out a mine but also employing them in a mass form according to a definite operational and tactical plan.

In the Berlin Operation the mission was set of making the left wing of the front impassable by laying obstacles and ensuring its stability. I was concerned not only by the possibility of the arrival of the Breslau enemy garrison. On the left wing an enemy grouping remained which had not been mopped up after the Oppeln Operation. We saw the scale of work which our combat engineers carried out.

About camouflage. Under modern conditions, in preparing for major operations such as the Vistula-Oder, extensive work was done in surprise and deception by the engineer troops. What did this involve? We prepared around 2,000 dummy tanks and 2,000 dummy guns, we set up a large amount of camouflage nets and carefully prepared the beachheads. All of this provided an opportunity to conceal the troops and equipment and make them invisible to the enemy. This work carried out by our engineer troops, proceeding from the overall plan of surprise and deception, merits great attention as positive experience and confirms the need to have a large number of engineer troops, including our UOS<sup>5</sup> which no one wanted to be responsible for. In the course of the war they performed excellently in all operations. In following behind us, the UOS literally in the shortest time established defensive lines in the rear and ensured the task of retaining the occupied territory. Starting with the Belgorod-Kharkov Operation they excavated and dug out all the lines which were in the rear of our offensive and thus carried out a large amount of work.

The last conclusion is that on the basis of the war's experience, our all-arms commanders and their staffs had high regard for this branch of troops and they aided our engineer chief in correctly utilizing it and in training it effectively so that in the future they could rely on this glorious branch of troops.

Over the period of the war, the signal troops grew in quantitative and qualitative terms, the equipment which the signal troops possessed was improved and

modernized. But it would be wrong to remain on the achieved level and for this reason we must continue to improve the signal troops.

Our rear bodies, from the experience of the last operations and particularly this major, intense operation, carried out all their missions. Previously we had most shortcomings in the work of the rear services. But it would be wrong to say that our rear services did not grow in the sense of the organization of control, in the sense of maneuvering supplies and the ability to allocate and deliver these supplies to the troops. All of this was done correctly with few exceptions but why were we still caught short. We were caught short because, although the organization of our rear service as a whole was correct, it still had many shortcomings. Not all the elements of our rear services were up to the modern tasks which the troops carried out.

The work of the rear services should be carried out in the direction of further motorization so that they possess a greater capability of maneuvering and can deliver materiel to the troops faster and so that our rear services are capable under present-day conditions, as the Berlin Operation teaches, not only to maneuver the material reserves but also support the operational maneuver of the troops. The experience of the war has shown that the reserve of the front command must include a motor transport brigade and it must be employed for carrying out such missions as shifting the troops. Luchinskiy's<sup>6</sup> army was shifted in 2 days to Berlin. Because of the situation this was extremely essential. For this reason the shifting of Luchinskiy's army by motor transport was that experience which shows the possibilities which our Soviet Army possesses. It would be a good thing in peacetime that we train in shifting troops on motor vehicles so that there not be confusion.

There was mass traffic toward Berlin along the autobahn. That is correct. The autobahn made it possible to move in 8-10 lines. But why did we neglect this possibility? If there is an opportunity it should be completely utilized for maneuvering.

The rear services should not be left to their own devices and our staffs should also be concerned with them. It must be realized that, regardless of the high troop morale and the large amount of equipment, if there are no shells everything can be ruined. As an example I could give the following instance. After the crossing of the Oder, the rear services were extended, the rebuilding of the railroads lagged behind, motor transport was incorrectly used and I, as the commander of the front, had nothing available and everything depended upon the rear. The troops had crossed the Oder with a quarter of a unit of fire of ammunition and particularly the 13th Army and the 3d and 4th Tank Armies. This was a difficult moment for our troops which had captured the Oder bridgehead. They were forced to drive off enemy attacks, to fight for the pillboxes which still remained on the western shore of the Oder using limited ammunition and fuel. This lesson must be remembered and the commanders and staffs must direct the rear services.

As a conclusion as a whole on the actions of the branches of troops in the Berlin Operation, I will end with the question of the organizing of their co-operation.

For all of us, from the rank-and-file soldier to the general, it is understood that success in modern combat is achieved by the aggregate of efforts by all branches of troops on the battlefield.

Each operation provided ever-newer examples of cooperation on the battlefield. With each operation our soldiers had a greater and greater understanding of the need for cooperation and a helping hand. It would be possible to give many examples when our soldiers helped one another in carrying out combat orders and missions. Combat friendship in a combat situation created an excellent understanding of the need for each branch of troops to carry out its missions.

The war demonstrated to everyone that cooperation between the branches of troops on the front is the crucial condition for success. Having realized this, the troops in each operation improved cooperation. The example of this is the Berlin Operation. The question of the breakthrough and crossing from beginning to end was planned out for all the branches of troops. Not a single branch of troops fell behind or was late nor violated the place which was established in the general plan of combat.

The tank troops and aviation were the basis in developing the breakthrough. As a whole, these two branches of troops handled the organizing of cooperation remarkably.

Under the conditions of a breakthrough and the exploitation of success, our artillery became such a favorite branch of troops for the infantrymen that we have numerous instances when the soldiers themselves pushed the gun and helped our artillery troops emplace it. This meant that they understood the importance of the artillery and knew that it was better and more felicitous to advance with fire.

As a whole, the troops successfully managed the organizing of cooperation in the Berlin Operation among those enormous resources and all branches of troops worked well.

Cooperation, a helping hand, support, and an understanding of this question could be found in all and while individual shortcomings did occur this was not the result of the fact that the given question was underestimated and not appreciated by the higher chiefs and staffs who organized cooperation but was mainly due to a lack of information about the situation in the individual units. This was the result of weak command and control. Good, precise command and control lie at the basis of cooperation and for this reason I would conclude that command and control is the very soul of cooperation. The staffs handled their missions but individual shortcomings did occur in command and control. Experience has shown that when they know the tasks, when everything has been organized and when the staffs exercise control then things go well. As soon as command and control begin to falter, cooperation is upset. With good command and control, good cooperation will be provided and there will be good results on the battlefield.

The most important task of the command and our staffs if to organize cooperation. But this question requires skilled leadership and constant supervision in order to utilize the entire might of modern artillery, aviation and the tank

troops and so that everything is directed at the interests of success. Our staffs have developed and they are a superior class of command and control. These staffs are in the majority. The experience of the war teaches that the all-arms staff is the basic organizer of cooperation.

I can draw the following conclusion. The front's troops carried out the plan and the order of Hq SHC in this operation and fully met their duties. As for the experience which they acquired in this operation, it undoubtedly merits a careful analysis for all the branches of troops and for the stages of the operation.

On the question of studying the experience of the Great Patriotic War, the work must be carried out in two area: the first--the collecting of historical facts and the second--the generalizing of the facts and conclusions. All the facts should be correct and checked. They should correspond to reality. It is important that the conclusions are not the fruit of personal speculation but rather are based on examples, documents and events which occurred before the very eyes of all the participants.

#### FOOTNOTES

<sup>1</sup> The commander of the 5th Guards Army.

<sup>2</sup> The commanders of the 13th Army, the 3d Guards Army, the 3d and 4th Guards Tank Armies.

<sup>3</sup> Maj Gen Art L. I. Kozhukhov, commander of the X Artillery Corps.

<sup>4</sup> Lt Gen Avn V. G. Ryazanov, commander of the I Guards Ground Attack Air Corps at the designated time was controlling air operations from his command post.

<sup>5</sup> UOS--headquarters of defensive installations.

<sup>6</sup> The commander of the 28th Army.

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## ARMY GEN MAKSIMOV ON OFFENSIVE IN EUROPE, 1945

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[Article by Hero of the Soviet Union, Army Gen Yu. P. Maksimov, under the rubric "Soviet Military Art": "The Strategic Offensive of the Soviet Armed Forces in the Concluding Campaign in 1945 in Europe"]

[Text] Among the numerous military campaigns conducted by the Soviet Army during the years of the Great Patriotic War, the final campaign of 1945 in Europe holds one of the central places. It included such truly grandiose strategic operations by groups of fronts as the Vistula-Oder, East Prussian, Berlin, Prague and others. In the course of these the Nazi armed forces were dealt a final defeat as a result of which they were forced to accept unconditional surrender.

In terms of the intensity of military-political events, the scope of the fighting, the degree of its intensity and the results achieved, the final campaign had enormous importance not only for the victorious conclusion of the war in Europe but also the outcome of World War II as a whole as well as the postwar structuring of the world.

By the start of 1945, the military-political situation had changed in favor of the nations of the anti-Hitler coalition. The powerful blows of the Soviet Army as well as the successes of the American-English troops and the forces of the Resistance Movement had led to the collapse of the Axis bloc in Europe. Italy, Finland, Romania, Bulgaria and Hungary withdrew from the war on the German side and declared war against Germany. However, regardless of the sharp deterioration in the political and economic situation, Germany was still a strong opponent. Although its industrial production had begun to decline, at a price of maximum effort and due to total mobilization it had succeeded in maintaining the output of defense products on a high level.

The armed forces of Nazi Germany continued to represent a rather impressive force. There were 5.4 million soldiers and officers in the operational army. As before, a larger share of the troops and aviation was concentrated on the Soviet-German Front. Here, considering the Hungarian formations, there were 3.7 million men, 56,200 guns and mortars, 8,100 tanks and assault guns and 4,100 aircraft. In organizational terms these comprised 10 field armies, 4 tank armies, an operations group (185 divisions, including 24 tank and 9 motorized

as well as 21 brigades) and 3 air fleets. In the reserve army and in various rear formations the enemy had 2.5 million men, 10,100 guns and mortars, 1,675 tanks and assault guns as well as 323 combat aircraft.<sup>1</sup>

The strategic plan of the Nazi Command for 1945 consisted in preventing the advance of the Soviet troops to vitally important German centers by concentrating the main forces on the Soviet-German Front and relying on the previously prepared, deeply echeloned defenses. On the Western Front, the Nazi leadership, still hoping to split the anti-Hitler coalition, endeavored to keep the initiative whatever the cost, to gain time and obtain the possibility of shifting a portion of the forces against the Soviet Army. Here the Nazi leadership proceeded from the fact that the Soviet Army had undertaken an operation to destroy the blockaded grouping in Kurland and would then begin an offensive in East Prussia. At the same time an offensive by the Soviet troops was expected in Southern Poland, Czechoslovakia and Hungary. On the Berlin sector, it was assumed that the Soviet troops would conduct only holding operations. Proceeding from this the grouping of the Nazi Wehrmacht was established. In October-May, the Nazi Command shifted from the central sector to its flanks some 18 divisions (including 8 tank) and 3 brigades and this led to a significant weakening of it. Here there was just 23 percent of all the divisions and brigades fighting on the Soviet-German Front.<sup>2</sup>

By the start of 1945, the Soviet Union and the countries of the anti-Hitler coalition possessed enormous military-economic capabilities which significantly surpassed the military economy of Nazi Germany and militaristic Japan.

Due to the great organizational and ideological activities of the Communist party, the Soviet Union had succeeded in achieving significant growth in military-economic potential. In working unstintingly, our people had made major advances in the development of industry, transport, agriculture, science and technology. In 1944, the output of industrial product had increased by 15.3 percent in comparison with 1943.

The strategic situation was also developing favorably. By the start of 1945, the Soviet Armed Forces had almost completely liberated their own territory of the Nazi occupiers and had initiated military operations outside the Soviet Union. Having entered East Prussia, our troops shifted military operations into German territory. In 1944, the total length of the Soviet-German Front had been reduced from 4,400 to 2,200 km.

The might of the Soviet Armed Forces had increased even further. They numbered 9,412,000 men, 144,200 guns and mortars, 15,700 tanks and SAU [self-propelled artillery mount] and 22,600 combat aircraft. On the Soviet-German Front (without the reserves of Hq SHC [RVGK]), the Soviet Army had 6.7 million men, 107,300 guns and mortars, 12,100 tanks and SAU and 14,700 combat aircraft. In organizational terms these comprised 10 front field forces, 2 fleets and 3 flotillas, 51 all-arms armies, 6 tank armies, 10 air armies and 2 fronts of national air defense. In the Soviet troops there were 473 rifle, airborne and cavalry divisions as well as 12 separate tank and 6 mechanized corps. Fighting along with the Soviet troops were a Polish army, two Romanian armies, a Bulgarian army, a Czechoslovak army corps and their air units as well as the Normandie-Nieman Air Regiment.

The Soviet Army had steadily held the initiative and was preparing to make decisive blows against Nazi Germany. It surpassed the enemy as follows: by 1.8-fold for personnel, by 1.9-fold for guns and mortars, by 1.5-fold for tanks and self-propelled (assault) artillery mounts and 3.6-fold for combat aircraft.<sup>3</sup>

Considering the developing situation, the Communist Party and the Soviet government gave the Armed Forces the mission of completing the defeat of the Nazi Wehrmacht, to completely carry out their international duty of helping the European peoples which had remained under the Nazi yoke to escape from the Hitler tyranny, to restore freedom and independence to the enslaved countries and together with the Allies in the anti-Hitler coalition to victoriously conclude the war, having forced Nazi Germany into an unconditional surrender.

The work of planning the Soviet Army offensive was commenced by the General Staff in the course of the 1944 summer-autumn campaign. In accord with the overall plan, it was assumed that the task of defeating the Wehrmacht troops on the Soviet-German Front would be carried out in two stages by conducting successive operations to a depth of 600-700 km without operational pauses between them. In the first stage, the Soviet Army, by simultaneous crushing blows, was to defeat the enemy in East Prussia, Poland, Czechoslovakia, Hungary and Austria, to split the front of the enemy defenses and reach the line of the Vistula River, Bydgoszcz, Plznan, Breslau, Moravska-Ostrava and Vienna. In the second stage Berlin was to be taken, Prague liberated, with a link-up with the Allies and an end to the war in Europe.

The main thrust by the forces of the First Belorussian and First Ukrainian Fronts was to be made on the Warsaw-Berlin sector, an offensive on which would defeat significant enemy forces, complete the liberation of Poland and also bring the Soviet troops by the shortest route to the central areas of Germany and to its capital. The mission of taking East Prussia and liberating the northern regions of Poland was entrusted to a portion of the forces of the First Baltic Front and the troops of the Third and Second Belorussian Fronts. It was assumed that after the East Prussian enemy grouping had been cut off from the remaining Wehrmacht forces, the troops of the Second Belorussian Front would continue the drive to the west along the Baltic Sea Coast, supporting the operations of the First Belorussian Front from the north and contributing to the defeat of the enemy on the Berlin sector. The destruction of the East Prussian grouping would be carried out by the troops of the Third Belorussian Front.

The liberation of the northern and central regions of Czechoslovakia was entrusted to the troops of the Fourth Ukrainian Front. Troops of the Second and Third Ukrainian Fronts were to advance on the Vienna axis with the mission of liberating Hungary, Southern Czechoslovakia, Austria and assisting in the liberation of Yugoslavia. The blockade of the enemy grouping cut off in Kurland

The blockade of the enemy grouping cut off in Kurland from the land side was entrusted to the Second and First Baltic Fronts which on 13 January 1945 were given the mission of going over to a rigid defensive along the entire front. With the attempt to evacuate the Kurland grouping, active operations were to be resumed and this stopped.

The operational fleets and naval flotillas were also to be involved in carrying out the designated missions.

The Air Forces were, while maintaining supremacy in the air, to make concentrated strikes against the enemy in the aim of assisting the ground forces and Navy in carrying out the missions given to them. The National Air Defense Troops were given the mission of covering the industrial regions and centers of the nation as well as the front lines of communications and major installations.

In working out the overall plan for the 1945 campaign, Headquarters did not assemble the front commanders at a special meeting but rather limited itself to summoning them to the General Staff individually and discussing questions relating to the operations of the fronts. After a careful review of the version of the overall plan for military operations for the winter and spring of 1945, this was reported to Headquarters where it was thoroughly discussed.

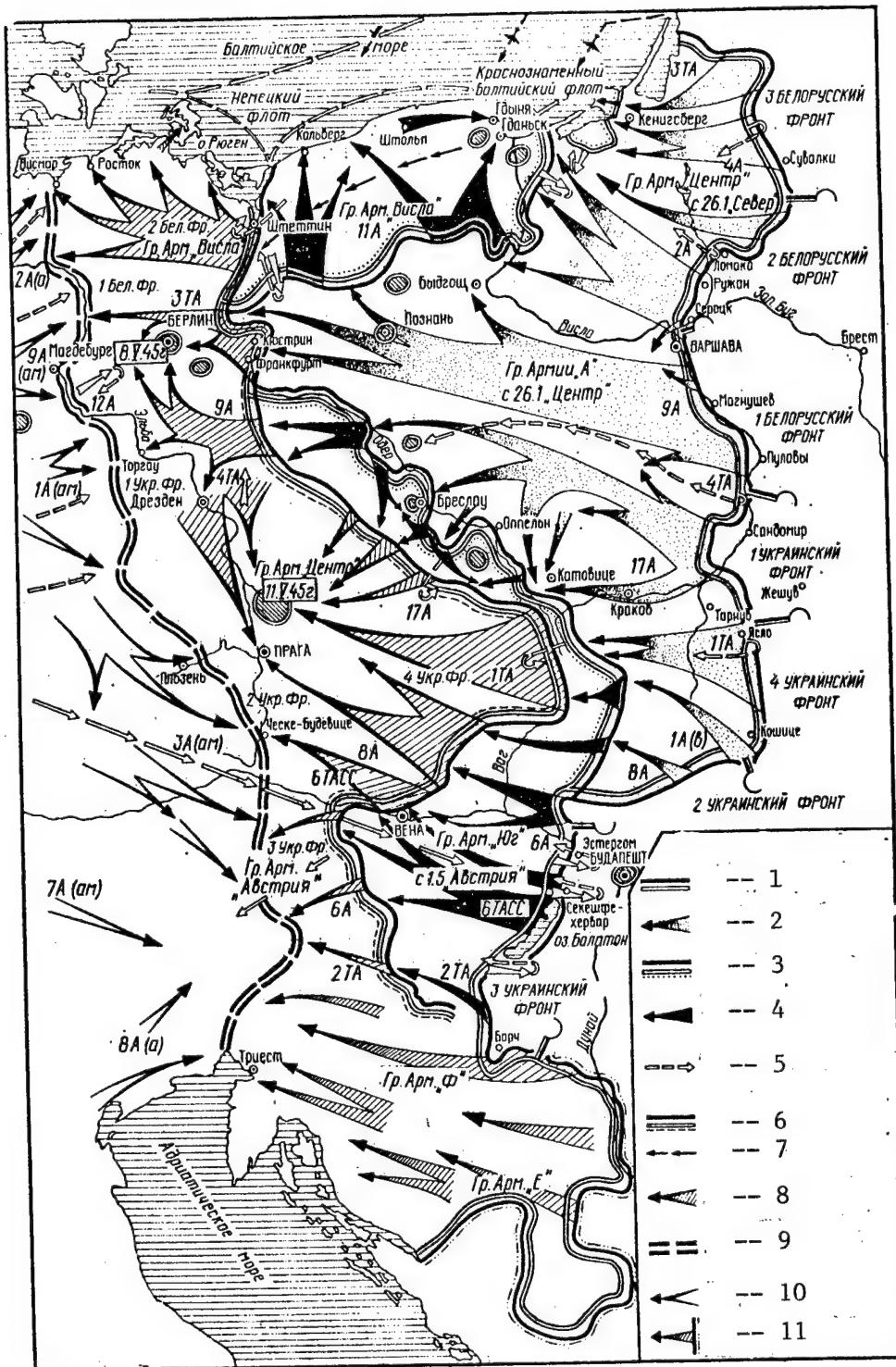
The start of the offensive was planned for 20 January 1945. But because of the difficult situation of the Allied armies which had arisen as a result of the offensive by the Nazi troops in the Ardennes and the region of Strasbourg, the British Prime Minister W. Churchill turned to I. V. Stalin with a request to move up the start of the offensive on the Soviet-German Front. This started on 12-14 January simultaneously in East Prussia and Poland. It significantly eased the situation of the anglo-American troops, since the Wehrmacht Command was forced to shift a portion of the troops from the west to the east.

In terms of the scale and results of armed combat, the Soviet-German Front as before remained the main front of World War II.

The Vistula-Oder Operation was one of the major strategic operations of the final campaign. In the course of it the troops of the First Belorussian and First Ukrainian Fronts, with assistance from the left wing of the Second Belorussian Front and the right wing of the Fourth Ukrainian Front crushed the enemy defenses in an area of 500 km, they routed the opposing enemy grouping and, in developing a rapid offensive, widened the front of advance to 1,000 km and by 3 February reached the Oder. This was crossed without a halt and several bridgeheads captured.

In East Prussia the troops of the Third and Second Belorussian Fronts broke through a powerful, deeply echeloned defense and, overcoming stubborn enemy resistance, on 26 January reached the Baltic Sea. The East Prussian enemy grouping was cut off from Germany, split into parts and subsequently destroyed.

During February-April 1945, the troops of the First and Second Belorussian Fronts carried out the East Pomeranian Operation, they routed the Army Group Vistula, they reached the Baltic Sea Coast from the mouth of the Vistula to the Oder and lifted the threat of an enemy flank attack against the enemy troop grouping preparing to attack Berlin. At the same time, the First Ukrainian Front broke through the Oder defensive line, it surrounded the enemy garrisons in Glogau and Breslau, it reached the Neisse River and took up an advantageous position for a subsequent offensive. Nazi Germany was deprived of important military-industrial and agricultural regions while its armed forces suffered new, irreparable losses. Their operational-strategic situation deteriorated.



General Course of Military Operations in Europe. January-May 1945

[For key, see the following page]

[Key for diagram on preceding page]

Key: Military Operations on Soviet-German Front:

- 1--Front line by 1 January
- 2--Axis of Soviet thrusts in January--beginning of February
- 3--Front line on 8-12 February
- 4--Axis of Soviet thrusts in February--first half of April
- 5--Shifting of Nazi troops from the Western Front to the  
Soviet-German Front
- 6--Front line by mid-April
- 7--Regrouping of Soviet troops
- 8--Axis of Soviet thrusts from mid-April to end of war
- 9--Link-up line of Soviet and Allied troops by war's end
- 10--Axis of Soviet thrusts
- 11--Combat operations of the Yugoslav People's Liberation Army

The troops of the Second and Third Ukrainian Fronts by mid-February had eliminated the previously surrounded Budapest enemy grouping and liberated the capital of Hungary. But, in endeavoring to restore the defenses along the Danube, the Nazi Command at the beginning of March undertook a counteroffensive. The troops of the Third Ukrainian Front successfully repelled the offensive of the Nazi grouping and without an operational pause, together with troops from the Second Belorussian Front, on 16 March went over to the offensive on the Vienna sector, completing the liberation of Hungary and capturing the capital of Austria on 13 April. The entry of Austrian territory by the Soviet Army accelerated the surrender of the Nazi troops in North Italy and created a threat to sealing off the Nazi grouping which was retreating from Yugoslavia.

The victories won by the Soviet Army at the beginning of 1945 were of great importance for the subsequent military operations. Having crushed enemy resistance from the Baltic to the Danube, our troops advanced to a depth of 600 km. The enemy's strategic front was destroyed. Its Kurland and East Prussian groupings had been surrounded and cut off from the Wehrmacht main forces while the Budapest grouping had been defeated. The Soviet troops were just 60 km from the capital of the Nazi Reich and had gained an opportunity to begin preparing for and conducting the final attacks against the enemy.

On 16 April, one of the major operations of the final campaign, the Berlin Operation, commenced. Having broken through the strong, deeply echeloned enemy defenses, the assault groupings of the First Belorussian and First Ukrainian Fronts on 24-25 April linked up to the west of Berlin. The enemy troops were surrounded and split into two groupings. On 25 April, the forward units of the 5th Guards Army from the First Ukrainian Front reached the Elbe and in the area of Torgau linked up with troops from the American 1st Army.

In the course of fierce street battles, by 30 April, the Berlin grouping had also been split into parts. Then the Frankfurt-Guben grouping was eliminated to the southeast of Berlin and attacks repelled from the German 12th Army which was endeavoring to break through to Berlin from the west. On 2 May, the remnants of the Berlin Garrison surrendered.

Troops from the Second Belorussian Front attacked Rostock, they defeated the opposing enemy grouping, reached the Baltic Sea Coast and linked up with the English Army.

After completing the defeat of the Berlin grouping, the troops of the First Ukrainian Front, having rapidly regrouped their forces, began a rapid advance into Czechoslovak territory. During the period from 6 to 11 May, together with troops from the Second and Fourth Ukrainian Fronts, they defeated the Nazi Army Group Center which had refused to surrender. On 9 May, they entered Prague, saved the city residents from peril and the city itself from destruction. The armed struggle in Europe ended with the victory of the anti-Hitler coalition.

In the course of the final campaign of 1945 in Europe, Soviet military art underwent further development, it was enriched with a number of new concepts and rose to a higher level. The level of strategic leadership increased and the effective utilization of resources rose.

In the area of strategy, the problem was solved of preparing and conducting a series of simultaneous and successive strategic operations by groups of fronts deployed along the entire Soviet-German Front and developed successively to a great depth. For example, the First and Second Belorussian Fronts after the East Prussian and Vistula-Oder Operations conducted the Eastern Pomeranian Operation and the First Ukrainian Front conducted the Upper Silesian and Lower Silesian Operations. Then these fronts conducted the Berlin Operation. This could be done because the Soviet High Command had the possibility of quickly replenishing the losses suffered by the troops in the course of the previous operations and to stockpile supplies of materiel for the concluding operations in the sector of the main thrust.

In the final campaign, armed combat assumed an even more decisive nature. While in the first period of the war the strategic defensive was the main type of military operations, and in the second the strategic offensive was combined with strategic defense, in 1945, the strategic offensive was carried out simultaneously along the entire Soviet-German Front. Major forces of the Soviet Army were involved in conducting it. Combat operations developed at a rapid pace and to a great depth (see the table).

The advantage of such a method of conducting a strategic offensive was that the Soviet troops in a short period of time achieved major military-political and strategic results. The enemy's strategic defensive front was split into parts, large Nazi troop groupings were defeated, the enemy was forced to spread out its efforts and was deprived of the possibility of maneuvering operational reserves.

The strategic operations in the final campaign were marked by great results. Just from 1 January through 15 May 1945, the Nazi Army on the Soviet-German Front lost over 1 million men killed. The Soviet Army destroyed and captured over 12,000 tanks and assault guns, around 30,000 field artillery guns and 6,000 airplanes.<sup>4</sup> As a result of each strategic operation, the situation was substantially altered on the Soviet-German Front.

Depending upon the nature of enemy defenses and the grouping of its troops as well as the configuration of the front, the Soviet Command employed various

Table

## Indicators of Major 1945 Offensive Operations

Operations	1	2	3	4	Rate of Advance, km/day			Men and Equipment			
					5	6	7	8	9	10	11
Vistula-Oder (12.1-3.2)	2	over 500	500	23	25-45	40-70	14.3	2,203.7	33,500	over 7,000	5,000
East Prussian (13.1-25.4)	3	550	150-200	103	10-20	15-40	133	1,669	25,426 <sup>b</sup>	3,859	3,097
Berlin (16.4-8.5)	3	300	100-220 <sup>a</sup>	22			193	2,500	41,600	6,250	7,500
Prague (6.5-11.5)	3	1,000	150-200 <sup>a</sup>	6	50-60	151	151	2,028 <sup>c</sup>	30,452 <sup>c</sup>	1,960 <sup>c</sup>	3,014 <sup>c</sup>

Note: a--Determined by meet-up line with Allied troops

b--Not counting antiaircraft and rocket artillery

c--Considering Polish, Romanian and Czechoslovak troops

## Key:

1--Number of participating fronts

2--Width of front of advance, km

3--Depth of advance, km

4--Duration, days

5--All-arms field forces (formations)

6--Tank (mechanized) field forces (formations)

7--Divisions

8--Men, thousand

9--Guns and mortars

10--Tanks and SAU

11--Combat aircraft

methods of defeating the enemy. As before the main ones were: encirclement and destruction of its major groupings; splitting the strategic front; breaking up the opposing forces with their subsequent piecemeal destruction.

The surrounding of large enemy groupings was achieved by launching a single powerful enveloping strike and by pressing the enemy to natural impassable lines (East Prussian Operation), by breaking through the front on several sectors with the subsequent development of a pincer drive and the surrounding of the opposing groups in the operational defensive depth (Berlin Operation).

The destruction of the surrounded groupings had a number of particular features. For example, the elimination of the Frankfurt-Guben grouping was carried out when it was attempting to break out from the ring by forcing the inner perimeter of encirclement and simultaneously defeating the main forces. The Berlin and Breslau groupings as well as certain others were destroyed by launching concentric attacks. The groupings pressed to the sea in East Prussia were eliminated successively (to the southeast of Konigsberg, in Konigsberg and on the Semland Peninsula).

The splitting of the enemy strategic front was carried out by launching deep strikes by cooperating fronts. Thus, in the East Pomeranian Operation when the troops of the First and Second Belorussian Fronts reached the Baltic Sea Coast in the Kolberg area, the enemy East Pomeranian grouping was split into two parts and this facilitated its subsequent destruction.

With the start of a strategic offensive in a number of instances the need arose of breaking through enemy defenses along a broad front. Under these conditions, the breaking up of the enemy strategic front was employed. This was done by launching attacks along a broad front following parallel or divergent axes. As a result the enemy front was split into parts and its reserves were tied down along a broad front. This facilitated our troops' destruction of the individual groupings which were isolated and had lost operational contact. For example, in the Vistula-Oder Operation the First Belorussian and First Ukrainian Fronts launched powerful attacks against the enemy and by a rapid advance in depth split the Army Group A into the Warsaw, Kielce-Radom and Cracow groupings and then completed their defeat in a short time. The plan of the Nazi Command was thwarted of grinding down and bleeding white the attack groupings of the fronts by a defensive on the previously prepared lines between the Vistula and the Oder.

We should also note the experience of establishing attack groupings. On the selected sectors of advance, Headquarters concentrated a quantity of resources which would ensure the establishing of decisive superiority over the enemy. The massing was carried out by resources existing on the fronts and the Headquarters reserves. As a total in the course of preparing the strategic operations in the final campaign, Headquarters assigned from its reserves to reinforce the fronts some 11 all-arms armies, 4 tank armies as well as a large number of separate rifle, artillery, tank, self-propelled artillery, engineer and air formations.<sup>5</sup> In the first stage of the campaign, a particularly large Soviet troop grouping was established on the section of the front from Warsaw to Jaslo. In an area of around 300 km comprising 16.6 percent of the length of the Soviet-German Front there were concentrated over 30 percent of the rifle and cavalry divisions and up to 50 percent of the tank and mechanized corps.

In the course of the campaign, Headquarters carried out major troop regroupings. In the period of preparing for the Berlin Operation, for example, the troops of the Second Belorussian Front were shifted from the Danzig area to the Stettin sector. The First Belorussian and First Ukrainian Fronts received the 3d, 28th and 31st Armies which had been freed in the course of the East Prussian Operation.

The organization of operational-strategic cooperation by the Soviet Supreme High Command in the operations is of great instructiveness. Regardless of the enormous scope of the strategic offensive, clear coordination was achieved among the fronts fighting both on the same as well as different strategic sectors and close coordination was achieved in the actions of all the Armed Services and branches of troops. The long-range aviation launched attacks not only against objectives deep in the enemy rear. In a number of instances, it was also employed in tactical cooperation with the ground forces (in the storming of Königsberg and Berlin). The Navy, in operating on the sea lines of communications, restricted the movement of enemy transports. The forces of the Baltic Fleet checked regular supply of enemy troops in the Baltic, East Prussia and Pomerania, they prevented the evacuation of enemy groupings sealed off on land and supported the Ground Forces by naval firing and air strikes. The bases of cooperation were set down by Headquarters while working out the overall plan of the operations by carefully coordinating all the involved forces in the interests of successfully carrying out the main operational-strategic missions.

Operational art also underwent further development within the scope of the strategic offensive operations.

First of all it must be pointed out that the fronts and armies employed decisive methods for defeating the opposing enemy groupings. For example, in the Vistula-Oder Operation, the First Belorussian Front launched divisive thrusts in the aim of splitting the opposing enemy grouping and subsequently destroying it piecemeal. A portion of the front's forces was aimed at encircling and destroying the Kielce-Radom operational-tactical grouping in cooperation with the First Ukrainian Front while the troops on its right wing were to defeat the Warsaw grouping. The First Ukrainian Front in this operation launched a powerful divisive thrust from the Sandomierz sector.

In the Berlin Operation, the First Belorussian Front launched the main frontal attack by the forces of five all-arms armies and two tank armies from the Kustrin bridgehead as well as two auxiliary thrusts each with the forces of two all-arms armies in the aim of splitting the Berlin enemy grouping and the subsequent encirclement and destruction of it piecemeal in collaboration with troops from the First Ukrainian and Second Belorussian Fronts.

In a number of operations, the offensive started from bridgeheads captured by our troops in the course of concluding the previous operations on major river obstacles. Opposite these bridgeheads the enemy established deeply echeloned defenses and concentrated major troop groupings. Under these conditions the fronts were forced to launch the main thrusts against strong sections of the enemy defenses. The East Prussian, Vistula-Oder and Berlin Operations can serve as an example of this.

At the same time, in certain instances the main thrust was launched by the fronts against weak areas of the defenses. Thus, in the Upper Silesian Operation the main thrust of the First Ukrainian Front came in the boundary area of the 17th Field Army and the Army Group Heinrizi on terrain making it possible to most effectively utilize all branches of troops, primarily the mobile troops. This made it possible to rapidly break through the enemy defenses and in the shortest time encircle and destroy the Nazi grouping to the southwest of Oppeln.

A decisive superiority in men and weapons was always established over the enemy on the sector of the main thrust and high densities of infantry, artillery and tanks on the breakthrough sectors. For example, in the Vistula-Oder Operation the commander of the First Belorussian Front in a sector 30 km wide (which was 13 percent of the total width of the front's zone of advance) had concentrated 54 percent of the rifle divisions, 53 percent of the enemy, 91 percent of the tanks and SAU and 100 percent of the aviation. This made it possible in the breakthrough sectors to establish a density of 0.8 km per division, 250 guns and mortars, up to 100 tanks and SAU, including 25 close support tanks, per kilometer of front and achieve predominant superiority over the enemy.<sup>6</sup>

Also characteristic was the deep operational configuration of the fronts. For example, the First Ukrainian Front in the Vistula-Oder Operation had 6 all-arms armies and 3 tank corps in the first echelon, and 2 all-arms armies in the second; there were 2 tank armies in the mobile group and a mechanized and cavalry corps in the reserve.

The establishing of the essential superiority in men and weapons on the selected sectors of advance and the deep operational configuration of the troops of the fronts and armies provided an opportunity to ensure favorable prerequisites for increasing the force of the thrusts from in depth and maintaining superiority over the enemy in the course of the entire operation.

In order to ensure superiority over the enemy on the sectors of the main thrusts, in preparing virtually all the front operations, major troop regroupings were carried out. For example, in the period of preparing for the Berlin Operation in the zone of the First Ukrainian Front there was a regrouping of 6 all-arms armies, 2 tank armies, 7 artillery breakthrough divisions and many other formations and units.<sup>7</sup> Major regroupings were also carried out in the areas of the First and Second Belorussian Fronts.

Operational art in the 1945 campaign was enriched by the experience of conducting offensive operations by the fronts at a rapid pace and to a great depth. Thus, in the course of the Vistula-Oder Operation, the troops of the First Belorussian Front, in surmounting stubborn enemy resistance, advanced to a depth of over 500 km. The average rate of advance for the all-arms formations was 25 km. On certain days they reached 45 km while for the tank armies it was 70 km a day.

The basic ways for solving the problem of developing an offensive at a rapid pace and to a great depth were: breaking through the defenses by the coordinated efforts of all branches of troops in ensuring dependable fire damage to the enemy; increasing the force of the attacks from within the configuration of the attack grouping; depriving the enemy troops of the possibility of organizing

a defense on advantageous lines in depth; using diverse and flexible forms of maneuver in developing the offensive.

In the development of an offensive to a great depth the crucial role was played by the massed use of tank armies and the individual tank and mechanized corps which possessed great strike and fire power and high mobility. Supported by massed air strikes and dependably covered from the air, these were that crucial force which ensured the successful conclusion of the breakthrough of the enemy defenses, the crossing of intermediate defensive lines without a halt, the development of the offensive at a high pace and the carrying out of a maneuver in the aim of splitting or encircling the basic enemy groupings and their subsequent defeat.

The skillful organization of enemy pursuit contributed largely to the success of conducting the offensive operations to a great depth and at a rapid pace. This, as a rule, started immediately after the breaking through of its tactical defensive zone and was carried out on a broad front continuously, at night and during the day. The troops of the front (army), in going over to pursuit, usually sent out ahead strong, highly mobile forward detachments which were established ahead of time or with the start of pursuit. Without engaging in extended battles, they came out on the enemy routes of retreat, they anticipated it in occupying advantageous intermediate lines, they captured crossings and bridges on water obstacles, road junctions and airfields and held them until the arrival of the main forces.

The Soviet Command achieved brilliant results in solving such a difficult problem as the crossing of water obstacles. All the major rivers were crossed by the advancing troops without a halt along a broad front. Under these conditions of crucial significance were the careful organizing of the crossing, the early moving up of engineer equipment to the river, the crucial actions of the forward detachments as well as the rapid increasing in effort in the struggle to retain and widen the bridgeheads on the opposite bank. The bridgeheads captured on the major rivers in the concluding stage of an operation were then used for the concentrating of men and weapons in the aim of conducting subsequent operations.

The Soviet troops gained definite experience in the course of the final campaign in organizing and conducting an active operational defensive, although in the general course of armed combat, defensive operations during this period held an insignificant place. The fronts usually went over to the defensive after completing offensive operations. In the area of Lake Balaton, the troops of the Third Ukrainian Front conducted a defensive operation in the aim of repelling an enemy counteroffensive. The all-arms armies went over to the defensive in the aim of supporting the flanks of the front assault groupings, for repelling enemy counterstrikes and reinforcing the captured lines.

In all instances the defensive was of a temporary nature but was marked by great tenacity, steadfastness and high activity of the troops, by the launching of massed air and artillery strikes, by the carrying out of decisive counterstrikes and counterattacks and by the broad maneuvering of men and weapons. As a consequence of this, the defensive of the Soviet troops was insurmountable for the enemy. Even under the conditions of the massed employment of large tank groupings, the actions of which were supported by air strikes, the Nazi troops did

not succeed in breaking our defenses. Thus, in the Balaton Defensive Operation, over a period of 10 days, they were able to drive just 8-30 km into the defenses of the Third Ukrainian Front on a narrow sector of the front. Having bled white and halted the enemy, the Soviet troops without an operational pause began the Vienna Offensive Operation.

Men and weapons were maneuvered along the front and from in depth on an even greater scale than in previous years. As soon as the sector of the enemy main thrust was established in the Balaton Defensive Operation, the commander of the front strengthened the defenses of the 4th Guards and 26th Armies. Mobile reserves were moved up to the previously prepared defensive zone. Formations from the 27th Army occupied the section from Lake Velencei to the Serviz Canal. The CXXXIII Rifle Corps was concentrated in the area of Pecs from the front's reserve in order to strengthen the southern wing.

The stability of the defenses was achieved by the dependable damage to the enemy caused by artillery fire, air strikes and the stubborn holding of the occupied lines.

Due to the fact that tanks were the main force of the enemy counterstrike groupings, the art of quickly organizing antitank defenses assumed even greater significance. In the 1945 operations, this was based upon powerful antitank strongpoints and antitank areas which were echeloned to the entire depth of the army defensive zone, the artillery antitank reserves, the mobile obstacle construction detachments as well as the antitank minefields and other engineer obstacles set out on the most probable routes of advance for the enemy tank groupings. All types of artillery as well as the bomber and ground attack aviation were employed for fighting against the tanks.

In the course of the 1945 campaign, the tactics of Soviet troops underwent further development.

The breaking through of the enemy tactical defensive zone remained the major problem of offensive combat. This was explained by the fact that with the shortening of the length of the Soviet-German Front, the depth of the tactical defensive zone noticeably increased. In a number of instances this reached 20 km and more. The tactical densities of the troops, tanks and artillery increased sharply. These became particularly high with the shifting of combat operations to the territory of Nazi Germany. For example, in the Berlin Operation, in the area of the formations of the First Belorussian Front advancing from the Kustrin bridgehead, the enemy had 3 battalions, 66 guns and mortars and 17 tanks per kilometer of defensive front.<sup>8</sup>

Breaking through of such defenses necessitated a further narrowing of the zones of advance of the formations. In the major operations of the 1945 campaign, the width of the breakthrough sector of a rifle corps did not exceed 2-4 km and for a rifle division it was 1-2 km. This led to increased tactical densities which reached 6-8 rifle battalions, 200-250 guns and mortars and 20-30 close support tanks per kilometer of breakthrough sector.<sup>9</sup> Success of the breakthrough was ensured by careful preparations, by dependable fire damage to the enemy defenses to a great depth, by clear cooperation among all the branches of troops and by the prompt commitment to battle of the second echelons and sometimes the mobile groups.

The breaking through of a deep and solid defense as well as the great depth of the combat missions for the formations demanded the establishing of an echeloned grouping of men and weapons. The battle formation of rifle formations was formed up in two echelons. Here in the first echelon of a division there was an increased number of close support tanks and a greater number of artillery in the regimental, divisional and corps artillery groups. In certain operations the second echelons of the formations began to be reinforced with tanks and artillery.

The formations, units and subunits of all the branches of troops gained great practice in storming major cities such as Budapest, Konigsberg and Berlin. In the street battles the assault detachments and groups were the basis of the battle formations.

The defensive by the formations, as a rule, was organized quickly, in a majority of instances under the conditions of immediate contact with the enemy and sometimes in the course of repelling attacks by its superior forces. Thus, the first echelon formations had less than 24 hours to organize the repelling of the first counterstrike of the Nazi troops at Budapest.

The strategic offensive of the Soviet Armed Forces in the final 1945 campaign in Europe confirmed the viability of the most important thesis of Soviet military doctrine that the enemy armed forces can be destroyed only as a result of a decisive offensive. In 1945, the Soviet Army unleashed against the enemy an attack which was unprecedented in force and which ended with a world historical victory.

Regardless of the fact that the development of the means of armed combat in the postwar period has required new solutions to individual questions in the theory and practice of organizing and conducting operations, many provisions of military art most vividly apparent in the course of the final campaign have maintained their importance under present-day conditions. These include, primarily, the skillful choice of the sector of the main thrust, the concentration of crucial superiority over the enemy on it, ensuring dependable fire damage to the enemy to a greater depth, the necessity of coordinating the efforts of all the Armed Services and branches of troops, the bold maneuvering of men and weapons, the skillful employment of reserves and a number of others.

#### FOOTNOTES

<sup>1</sup> "Istoriya vtoroy mirovoy voyny 1939-1945" [History of World War II of 1939-1945], Moscow, Voenizdat, Vol 10, 1979, pp 35, 37.

<sup>2</sup> Ibid., p 39.

<sup>3</sup> Ibid., pp 28, 37, 38.

<sup>4</sup> "Istoriya Velikoy Otechestvennoy voyny Sovetskogo Soyuza 1941-1945" [History of the Great Patriotic War of the Soviet Union of 1941-1945], Moscow, Voenizdat, Vol 5, 1963, p 462.

<sup>5</sup> "Istoriya vtoroy mirovoy..." Vol 10, p 45.

<sup>6</sup> VOYENNO-ISTORICHESKIY ZHURNAL, No 5, 1975, p 30.

<sup>7</sup> Ibid., p 23.

<sup>8</sup> F. D. Vorob'yev, I. V. Porot'kin and A. N. Shimanskiy, "Posledniy shturm"  
[The Last Storming], Moscow, Voyenizdat, 1975, p 28.

<sup>9</sup> VOYENNO-ISTORICHESKIY ZHURNAL, No 5, 1975, p 37.

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## GORSHKOV ON OPERATIONAL-STRATEGIC USE OF NAVY IN WORLD WAR II

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[Article by Flt Adm SU G. S. Gorshkov, commander-in-chief of the Navy and USSR deputy minister of defense: "The Operational-Strategic Employment of the Navy in the Great Patriotic War"]

[Text] The main goals in the Great Patriotic War which the Soviet Union was forced to wage against Nazi Germany and its satellites, as is known, were achieved in engagements on the land theaters. But still the Navy played a significant role in achieving victory over the enemy. By the start of the war, it included the Northern, Baltic, Black Sea and Pacific Fleets as well as the Danube, Caspian, Pinsk, Amur and Northern Pacific Naval Flotillas. The Baltic and Black Sea Fleets possessed the strongest ship and air groupings as well as developed coastal defenses, a basing system and an airfield network. By the start of the war, in the Baltic Sea, the ratio of ship forces was approximately equal and in the Black Sea theater our fleet was supreme. However, with the outbreak of combat operations in all the naval theaters the enemy was supreme in the air and captured the initiative on the maritime land sectors. This told on the carrying out of the missions and the actual employment of the naval forces.

On the eve of the war the fleets were in high combat readiness. Here of major importance was the ordered system of states of alert, the clear organizing of naval reconnaissance and patrol service and the system of all types of defense. The vigilant following of situational changes on the naval theaters made it possible for the Navy Command to detect a number of indications of the approaching war and promptly carry out important measures of a defensive nature. This helped to reduce the effectiveness of the first enemy strikes. Here an important role was played by the steadfastness and heroism of the fleet personnel. The Soviet sailors, indoctrinated by the Communist Party in military and revolutionary traditions, excelled in high moral-combat qualities, loyalty to military duty and dedication to the socialist motherland.

In the course of the war, the Navy carried out two groups of combat missions. The first (main) consisted in joint combat operations with the Soviet Army which had assumed the basic burden of the struggle on the Soviet-German Front. The second was to combat the enemy fleet.

In carrying out the first group of missions, the Navy covered the maritime flanks of the defending formations and field forces against enemy strikes from the sea, it provided them with artillery and air support and was responsible for their supply and the delivery of reinforcements by sea. It landed amphibious landing parties, it supported the operational troop regroupings, it evacuated and transported personnel and equipment from isolated coastal areas and islands as well as the evacuation of the naval bases and garrisons. The naval forces participated in destroying enemy groupings pressed to the sea and prevented the landing of its amphibious forces and fought on the enemy lines of communications in the coastal zone.

In turn, the ground forces in the interests of the Navy also carried out a number of important missions. They defended the naval bases from the land, they participated in their air cover as well as the naval forces and convoys in sea crossings, they captured enemy ports and bases and with frontal [tactical] aviation attacked the enemy ships and vessels at sea, at anchor, at piers and docks. The organization of the joint execution of these tasks by cooperating forces was one of the complex problems of military art.

One of the most difficult tasks in the joint operations of the army and fleet was the defense of important strategic points and areas on the coastal sectors. Its complexity, particularly at the outset of the war, was largely explained by the insufficient preparation of the naval bases for defense, particularly from the land. According to the prewar views it was felt that the enemy would fight to capture naval bases chiefly by attacking from the air and sea by landing amphibious forces or destroying the at their berths. But with the outbreak of the war, the threat to the naval bases arose chiefly from the land. For this reason, their defense against the advancing enemy troops had to be organized in many instances in the course of the commenced combat operations. For example, the defense of the Liyepaya (Libau) naval base from the land was not properly prepared for ahead of time. As a consequence of this the land defense positions had to be equipped and cooperation organized hurriedly under attack by superior enemy forces.<sup>1</sup> The limited personnel and the shortage of time did not make it possible to create a strong defense for the base. Regardless of the mass heroism and courage of the defenders, Liyepaya was able to hold out only for 5 days (22-27 June 1941). The lesson gained here made it possible to prepare a more organized defense for the main base of the Baltic Fleet, Tallinn. On the approaches to it three defensive lines were organized. The main line 50 km long ran 9-12 km away from the city. But due to the shortage of time it was not sufficiently prepared. Its weak points were the linear positioning of the defensive works and the insignificant density of artillery fire.<sup>2</sup> The defense of Tallinn lasted 22 days (7-28 August 1941), until the order was received to evacuate the naval base.

The effectiveness of careful and preliminary preparations for defending the naval base from all directions was confirmed in practice in the battles for Hanko. Due to the particular military-geographic position of this base, the organizing of its defenses was carried out ahead of time and most soundly, and not only from the sea and from the air but also from the land. Here they equipped ahead of time land defensive lines which were securely covered by a system of artillery and machine gun fire, measures were taken to repel enemy sea and air strikes, and cooperation was developed between the land and naval

forces. Skillful leadership over the diverse forces, precise organization of control, command and communications and well planned and informative party-political work--all of this multiplied by the heroism of the defenders made it possible to make the defenses of the base unapproachable and active. The defense lasted 5½ months (26 June-2 December 1941) and was halted only upon orders of the Supreme High Command. The fleet executed the evacuation of the garrison skillfully.<sup>3</sup>

The experience of organizing the defense of the Baltic bases and the maritime beachheads was employed in the organizing of the 73-day defense of Odessa (5 August-16 October 1941) by the Black Sea Fleet and the legendary 250-day defense of Sevastopol (30 October 1941-4 July 1942) which was unprecedented in history in terms of courage and the art of execution. The success of their extended defense was aided by the establishing of a unified command headed in Odessa by the commander of the naval base, Rear Adm G. V. Zhukov, and in Sevastopol, by the commander of the Black Sea Fleet, Vice Adm F. S. Oktyabr'skiy and by the uniting of all the naval, land and air forces assigned for the defense into a single special operational formation, the defensive area. The defense of the major naval bases grew actually into the carrying out of defensive operations characterized by significant scope and duration. The operational configuration of the forces in such operations included a grouping of ground forces and naval infantry, the naval base itself with the ship groupings and air group as well as units and subunits of coastal artillery and air defense.

Very essential was the continuous functioning of the naval lines of communications linking the supply and support points with the besieged base and this required the involvement of significant naval forces. The artillery and air support for the defending troops played a major role. Thus, the aviation of the fleets, as a rule, was completely shifted to assisting the defending troops. Frequently the naval weapons were also used predominantly in the interests of the land units and formations. For example, virtually all the naval and shore artillery of the Baltic Fleet participated in the defense of Leningrad.

It must be emphasized that in the course of the war, as practical experience was studied and utilized, the art of organizing the defense of naval bases was constantly improved. It gained the greatest development in the following areas: the establishing of a unified command and temporary operational formations, that is, defensive areas, and this contributed to centralization, flexibility and clarity in the command of the forces as well as optimum conditions for the interaction of the diverse troop and naval groupings; the establishing of difficult-to-overcome defensive lines from the land and sea sectors as well as an air defense system; the organizing of special groupings of naval and shore artillery which, due to their high strike power and great range of fire, added stability to the defense; the development of the forms and means for promptly delivering by sea the required reinforcements and logistic means to the defending garrisons.

The joint operations of the land troops and the diverse naval forces to defend the naval bases, ports, separate islands and beachheads tied down major enemy groupings, they contributed to the functioning of important internal and external sea lines of communications and threatened the enemy flanks and rear.

The most complex and active form of joint operations between the army and navy during the years of the Great Patriotic War was the landing of amphibious forces. One has merely to recall that our fleet during the war years landed over 100 amphibious forces totaling more than 250,000 men.<sup>4</sup> They were used both during the defensive period as well as in the offensive period. In the first instance the aim was to halt or check the advance of the advancing enemy troops on the maritime sectors, to provide our units and formations with an opportunity to dig in on the defensive lines or create new ones. In the latter instance the amphibious forces assisted the maritime flank of the army in breaking through the enemy defenses, they captured beachheads for a subsequent offensive and took bases, ports and islands. Certainly there was not a single major offensive operation on the maritime sectors in the course of which amphibious forces were not landed. They helped the troops break through the enemy defenses, they made powerful surprise attacks against its installations in the rear, often beating their own advancing units and formations to certain lines.

In the course of the Great Patriotic War, the Kerch-Feodosiya Landing Operation was the major amphibious landing operation. It was carried out in accord with the decision of Headquarters Supreme High Command [Hq SHC] from 25 December 1941 through 2 January 1942. Its aim was to liberate the Kerch Peninsula, to provide help to the troops defending Sevastopol and to create conditions for further operations to liberate the Crimea. In the course of the operation troops of the 44th and 51st Armies, the landing of which was supported by forces of the Black Sea Fleet and Azov Naval Flotilla, captured an important beachhead in the Crimea. The enemy grouping which had been here prior to this, although able to avoid encirclement and complete defeat, suffered significant losses. The enemy was deprived of the opportunity to invade the Caucasus across the Kerch Peninsula and was forced for an extended time to halt the offensive against Sevastopol.

The joint operations of the fleets and flotillas with the ground forces in the landing operations were an important form of the operational-strategic employment of the Navy. At the same time, their scope which grew during the war demanded a generalization and profound analysis of the acquired experience and on its basis the elaboration of new theoretical provisions and practical recommendations. A thorough and careful study of the war's experience was made at the General Staff, the Main Naval Staff as well as the front, fleet, army and flotilla staffs and in the military academies. The results of this extensive scientific work were reflected in instructions and manuals, bulletins and collections, in journal articles and pamphlets. They were taken up most completely in the "Nastavleniye po sovmestnym deystviyam sukhputnykh voysk s voyenno-morskim flotom i voyennymi rechnymi flotiliyami" [Manual on Joint Operations of the Ground Forces With the Navy and Naval River Flotillas] worked out by the General Staff and the Main Navy Staff at the start of the second period of the war. In addition to general principles of cooperation, this contained detailed recommendations which in the course of subsequent amphibious operations were actually embodied. Thus, the questions of winning air supremacy in the landing area, the organizing of the operational configuration of the forces and the echeloning of the forces in their landing and operations on the shore began to be resolved more successfully. For neutralizing the antilanding defenses and covering their own forces landing on an enemy-occupied coast, in addition to the

naval artillery, extensive use was made of the naval ground attack, bomber and fighter aviation operating jointly with the frontal aviation.

In assisting the ground forces in carrying out important tasks on land, the navy constantly felt the need for the same assistance from the ground forces in carrying out its own missions at sea. The help and support provided it contributed to the overall success in achieving the goals of many operations.

The basic form of independent combat operations by the Navy was the disrupting of the enemy sea lines of communications. The collapse of Hitler's plan for a blitzkrieg, the increased need for supplying the troops and the impossibility, in a number of instances, of using other routes (Northern Norway, the appearance of isolated Nazi groupings in the Crimea and Baltic), and the acute need for supplying Germany with strategic raw materials from other countries--all of this for the enemy intensified the importance of the sea lines of communications and forced it to undertake measures to defend them against the active forces of the Soviet Navy.

Disrupting the enemy lines of communications at sea was carried out under very difficult conditions, particularly during the first period of the war. This was caused primarily by the extremely unfavorable general strategic situation for us on the land fronts, by the necessity of diverting a large portion of the naval forces for joint operations with the troops of the Soviet Army as well as by the loss of many naval bases and ports. Moreover, the very lines of communications ran chiefly close to enemy-controlled coasts and in certain instances even through the territorial waters of neutral countries, at shallow depths, and often through areas covered by coastal artillery and minefields. For example, one of the main Baltic lines of communications ran across the southwestern part of the Baltic Sea to the Swedish coast and then to the north through the territorial waters of Sweden. On the Black Sea, the enemy utilized predominantly coastal communications between destinations of occupied Soviet areas and the ports of Romania, Bulgaria and Turkey. Here shipments were carried out in small transports with a capacity of 100-150 tons, by self-propelled barges and schooners and this significantly reduced the effectiveness of naval operations on the lines of communications, primarily for submarines.

For defending the sea lines of communications, the enemy employed significant surface, submarine and air forces. The ship loading and unloading ports were closely covered by air defenses. The direct security for the convoys in a crossing at sea was constantly increased.

In the aim of disrupting the sea movements, the naval forces attacked enemy transports and combat ships in moving at sea, they struck the loading and unloading ports, they laid mines at the centers of the lines of communications, at approaches to ports and in narrows.

During the first period of the war, the mission of disrupting the enemy sea lines of communications was carried out by our fleets forced to operate with limited forces using the method of systematic operations. In 1941-1942, chiefly submarines which attacked vessels and ships at sea were employed for this purpose. Aviation and surface vessels at that time were diverted for joint operations with the troops on the maritime land fronts. From 1943, when the

strategic initiative finally passed to the Soviet Armed Forces, an opportunity appeared to sharply intensify the operations of our naval aviation which had received a significant number of new aircraft. From this time its role in the battle at sea began to increase sharply. Aviation was responsible for over 50 percent of the enemy merchant tonnage sunk by the naval forces during the war years.<sup>5</sup>

In line with the developing strategic offensive of the Soviet Army on all the fronts and the encirclement of a number of enemy groupings pressed to the sea, the role and importance of the sea lines of communications increased significantly for the enemy. Our fleets, in disrupting its sea movements, shifted from systematic actions to a higher form of the operational utilization of its forces, to operations on the enemy sea lines of communications. Within the context of the broad offensive on land, these were particularly successful. Thus in the course of the operation of the Black Sea Fleet which was a component part of the strategic operation to liberate the Crimea, just from 3 through 13 May 1944, around 42,000 enemy soldiers and officers were lost on ships and vessels destroyed at sea.<sup>6</sup> These losses significantly weakened the enemy's opportunity of organizing its defenses in the course of the subsequent Iasi-Kishinev Operation.

A pressing task for the Navy was the defense of its own sea lines of communications. The skillful use of diverse forces for this and the precise organization of measures to support movement made it possible, for example, for the Northern Fleet to escort 2,568 transports merely through inland lines of communications and transport more than 1,172,000 men and over 1.5 million tons of cargo.<sup>7</sup>

In the Baltic Theater, sea shipments for an extended time could be carried out only in the eastern part of the Gulf of Finland in a zone reachable not only by enemy aviation but also light surface forces and even coastal artillery. But, regardless of the complexity of the situation, the movement of our ships and vessels on the Baltic lines of communications did not halt. This was aided by the effective measures initiated by the fleet command to defend them. A particularly important role was played by fleet operations to support the operational regroupings of the troops during the period of conducting the strategic offensive. As a total over the war years, the Baltic Fleet transported around 1 million men and more than 1.5 million tons of cargo over the sea lines of communications.<sup>8</sup>

On the Black Sea dependable shipments by water largely determined the course of the defensive battles for Odessa, Sevastopol, the Caucasian Coast and the results of the offensive operations by our troops in the Crimea and Taman. Thus, the battleworthiness of the Black Sea Troop Grouping on the Novorossiysk-Tuapse beachhead in 1942 depended largely upon the functioning of the Black Sea lines of communications. In the defense of Sevastopol, 2,116 tons of ammunition, 1,032 tons of food and 508 tons of gasoline were delivered to its defenders in 1942 by submarines alone.<sup>9</sup> From January through June 1942, combat surface vessels and transports, in delivering troop cargo and reinforcements to Sevastopol, made 272 trips to the besieged city.<sup>10</sup> Such intense traffic on a major line of communications under the conditions of an enemy blockade was possible due to the energetic actions of the naval forces to defend their sea lines of communications.

In endeavoring to interrupt sea shipments, the enemy employed large groupings of aviation and submarines, torpedo boats and coastal aviation to attack our naval forces, and in the North there were large surface vessels, including battleships and cruisers. In 1942-1944, they operated periodically in the Barents and Kara Seas. On the Baltic and Black Seas, mines were also a serious danger.

The defense of the sea lines of communications included a broad range of measures: organizing a convoy service in the theaters; organizing all types of defense in the ports and bases as well as in zones where the lines of communications ran; direct security and coverage of the vessels in a move at sea.

In organizing the defense of its lines of communications against strikes by enemy naval forces, the Navy Command experienced great difficulties involved with the unfavorable operational situation in the theaters. A certain technical discrepancy was also felt for the demands of those times on the very objects of defense, the transport vessels.

The necessity of carrying out the task under difficult conditions demanded a constant search for the most effective combinations of the make-up of transport vessels and the escort forces in the convoys. In the process of seeking out and gaining practical experience, the fleet staffs reached the conclusion that the optimum for ensuring the security of navigation is sending mixed convoys that were comparatively small in size. In organizing these particular attention was paid to assigning security forces which included ships equipped with new sonar and radar equipment and more advanced models of antisubmarine weapons. Provision was also made for a dependable air cover, primarily by fighter aviation.

For escorting particularly important convoys, a double security ring was organized as well as an operational cover from specially assigned ship-air groupings. All of this made it possible to significantly improve the security and defense of the convoys during the move at sea and the organizing of the defense of our lines of communications as a whole.

The formation of new task forces and formations was an important measure to secure our lines of communications. Thus, in the course of the war the White Sea Flotilla was organized as well as the Novaya Zemlya, Iokanga and Kara naval bases in the North, the Ladoga Flotilla and the naval base on Moshchnyy Island as part of the Baltic Fleet, the Kerch naval base in the Black Sea Fleet and so forth.

Overall leadership of the organization and conduct of operations to defend the sea lines of communications was entrusted to the fleet commanders. The convoy service was organized directly by the convoy service departments of the fleet staffs and these organized the convoys, planned their movement, determined the routes and accounted for the cargo to be moved. In the shipping companies of the maritime fleet, military departments were established and on large vessels an officer position of military affairs mate was introduced.

The defense of the sea lines of communications was carried out by the fleets predominantly as part of daily combat activity. At the same time, under certain

conditions, when it was necessary to escort a large number of transports or particularly valuable vessels with troops and important cargo and significant enemy resistance, special operations were planned. Here the greatest experience was gained by the Northern Fleet which escorted 1,471 inland convoys and 77 exterior [overseas] ones.<sup>11</sup>

Certain of these operations were carried out upon the instructions and under the immediate supervision of Hq SHC. Thus, from May 1942 for the time of the operation of covering the external convoys, by its decision the Northern Fleet was significantly reinforced. A portion of the bomber aviation from the Reserve of the Supreme High Command [RVGK], the aviation of the Karelian Front and the Arkhangelsk Military District were transferred to the fleet. During the most intense period of the combat on the sea lines of communications in the summer of 1942, Headquarters issued special directives to support the convoys PQ-16, PQ-17 and PQ-18.

In the course of the Northern Fleet operations in escorting the convoys, submarines were deployed for intercepting the enemy surface vessels and enemy aviation was attacked at airfields. At key points on the lines of communications enemy submarines were sought out and destroyed and measures were provided for antimine defense.

During the war years, in the stubborn struggle against the strong sea enemy, the Navy transported by sea more than 10 million men and 100 million tons of military and national economic cargo and also delivered 17 million tons of cargo from the Allies over the external sea lanes.<sup>12</sup>

As a whole the struggle on the sea lines of communications had a stubborn and protracted nature. In the course of it the art of employing all the branches of forces of our Navy underwent further development. The war showed that the greatest effectiveness in combat operations was achieved by naval aviation and submarines. The former, for example, in improving the methods of fighting against the enemy sea movements, shifted from small-group attacks against convoys to massed arrivals over target in mixed groups of torpedo planes, bombers and ground attack planes numbering 50 and more aircraft. Here the depth of action of the torpedo and bomber aviation reached 350-400 km.<sup>13</sup> Attacks against enemy convoys began to be made using new tactical bombing methods, group attacks by torpedo planes from different directions, often in cooperation with the torpedo boats. The methods of the combat employment of submarines were improved. From solitary actions within designated stations they shifted to cruising in limited areas and even later to group attacks on convoys from hanging and mobile screens. The methods of employing torpedo weapons by the submarines underwent further development with the firing of individual torpedoes being replaced by volley firing.

In waging a fierce struggle against the enemy at sea, the Navy caused it significant losses. They were greatest in the Baltic Sea with 280 fighting ships and different auxiliary vessels being lost. In the Black Sea Theater these losses were 265 ships and vessels and in the Northern Sea 68 ships and vessels.<sup>14</sup> Moreover, many enemy ships were damaged and were out of commission for an extended time.

The enemy losses at sea led to a serious undermining of its sea might and completely deprived it of the opportunity to win even temporary supremacy at sea. Going to the bottom with the sunk transports and ships were the troops, military equipment and thousands of tons of strategic raw materials carried by them.

The naval forces were assigned a substantial role in the battles in the Far East in August 1945. In the liberation of the Far Eastern regions temporarily seized by the Japanese militarists, the Pacific Fleet defended its coast and covered the maritime flanks of the troops against enemy attacks from the sea, in cooperation with the ground units and formations it captured the naval bases and enemy strongpoints on the coast of Korea, the Kuril Islands and Southern Sakhalin, it prevented the supplying of enemy troops and their evacuation and so forth.

By its active operations the Soviet Navy not only made a major contribution to the victory of our Armed Forces, but also provided significant support to the fleets of the former Allies operating in the Atlantic and Mediterranean, since the Nazis were forced to keep around 20 percent of their submarines and up to 1,200 aircraft in the Barents, Baltic and Black Seas. There can be no doubt that the diverting of such impressive Nazi forces from the Atlantic contributed greatly to the Allied success in the so-called Battle of the Atlantic.

The results of the war convincingly confirmed the basic concepts of Soviet military doctrine and primarily the fact that a victory over a strong enemy can be won only by common, coordinated efforts of all the Armed Services and that in a fight even against a continental enemy, an important role is played by the Navy. The experience gained also provides an opportunity to disclose trends in the operational-strategic employment of the fleet. Its joint operations with the ground forces in the course of the war ensured the successful carrying out of the mission of defeating large enemy troop groupings on the maritime sectors and beachheads. Along with this the fleets also conducted independent operations which in operational-strategic terms were coordinated with the operations of the ground forces.

In the course of the war, the scale of the daily combat activity of the fleets increased. This included reconnaissance and all types of defense (air, anti-landing, antimine, antisubmarine, antaboat) in their operational zone, the laying of minefields, the convoying of transports and the escorting of combat vessels and was a form of the operational employment of the fleet. In the course of daily combat activity the missions were carried out covertly, continuously and, as a rule, over the entire maritime theater of military operations. The tactics of the diverse naval forces underwent significant development: new tactical procedures for naval aviation, submarines and surface vessels and the use of mines were worked out and tested in combat.

The experience of the operational-strategic employment of the Navy during the years of the Great Patriotic War was diverse and instructive. The conclusions and lessons from this experience and its influence are apparent today. It represents a valuable heritage and has had an impact on the development of Soviet naval art. In using it widely, the sailors under the leadership of the Communist Party are making a substantial contribution to the cause of strengthening our nation's defense capability.

## FOOTNOTES

- 1 TsvMA [Central Naval Archives], folio 9, file 109, sheets 43, 47-49; folio 18, file 40015, sheet 4; folio 22, file 134, sheets 5, 7-9, 20-36.
- 2 Ibid., file 27553, sheets 6-7.
- 3 Ibid., file 6331, sheets 2-67; file 709, sheets 367-369; folio 100, file 34185, sheets 108-132; folio 102, inv. 019573, file 322, sheet 3.
- 4 "Istoriya vtoroy mirovoy voyny 1939-1945" [History of World War II of 1939-1945], Moscow, Voyenizdat, vol 12, 1982, p 304.
- 5 See A. M. Gakkel', A. N. Zamchalov, K. V. Penzin, "Istoriya voyenno-morskogo iskusstva" [The History of Naval Art], Leningrad, Izd. voyenno-morskoy akademii, 1980, p 43.
- 6 "Istoriya vtoroy mirovoy...," vol 8, 1977, p 152.
- 7 "Morskoy atlas" [Naval Atlas], vol III, Military History, Part 2, Moscow, Izd. GSh VMF, 1963, sheet 42D.
- 8 Ibid., vol 3, Part 2, sheets 23E, 35A, 43A.
- 9 "Boyevaya letopis' Voyenno-Morskogo Flota" [The Combat Chronicle of the Navy 1941-1942], Moscow, Voyenizdat, 1983, p 291.
- 10 Ibid.
- 11 "Morskoy atlas," vol III, Part 2, sheet 42D.
- 12 MORSKOY SBORNIK, No 5, 1975, p 10.
- 13 "Istoriya vtoroy mirovoy...," vol 12, p 305.
- 14 A. V. Basov, "Flot v Velikoy Otechestvennoy voynye 1941-1945" [The Navy in the Great Patriotic War of 1941-1945], Moscow, Nauka, 1980, p 209.

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